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ABSTRACT

The Mass Communication and Society Division of the proceedings contains the following 11 papers: "Evaluating the Credibility of Online Information: A Test of Source and Advertising Influence" (Jennifer Greer, Jane Baughman, Patricia Cunningham-Wong, Ethnie Groves, Catherine McCarthy, Megan Myers and Cindy Petterson); "Disruptive and Cooperative Interruptions in Prime Time Television Fiction: The Role of Gender, Status, and Topic" (Xiaoquan Zhao and Walter Gantz); "Privacy in a State of War: The Effect of the Events of September 11 on Media Privacy Framing" (J. Richard Stevens); "The Enactment of Journalists' Role Conceptions" (Tim P. Vos); "The Credibility of Newspapers, Television News, and Online News" (Rasha A. Abdulla, Bruce Garrison, Michael Salwen, Paul Driscoll, and Denise Casey); "An Ideological Battle between Journalistic Values and Corporate Interests on the Information Superhighway: NBC News' Web Coverage of a GE-related Incident" (Tien-tsung Lee and Kuang-Kuo Chang); "The Impact of Web Use on the Public Perception of Physicians" (Wilson Lowrey and William B. Anderson); "Communicating In The Aftermath of A Crisis: Lessons Learned From 9/11" (Terence (Terry) Flynn); "The Influence of News Coverage On Gulf War Syndrome" (Robert L. Stevenson); "Alcohol Advertising Exposure and Perceptions: Links with Alcohol Expectancies and Drinking or Intention to Drink in Teens and Young Adults" (Kenneth Fleming, Esther Thorson and Charles Atkin); and "Peer and Social Influence on Opinion Expression: Combining the Theories of Planned Behavior and the Spiral of Silence" (Kurt Neuwirth, Edward Frederick and Joyce M. Wolburg). (RS)

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Evaluating the Credibility of Online Information: A test of source and advertising influence

**Jennifer Greer, Jane Baughman,
Patricia Cunningham-Wong, Ethnie Groves,
Catherine McCarthy, Megan Myers, and Cindy Petterson**

Reynolds School of Journalism
University of Nevada-Reno

Contact: Jennifer Greer
Mail Stop 310
University of Nevada-Reno
Reno, NV 89557

Office: (775) 784-4191
Home: (775) 746-3892
jdgreer@unr.edu

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Abstract

Evaluating the Credibility of Online Information: A test of source and advertising influence

An experimental design examined whether source or advertising credibility influence perceived credibility of an online news story. It was hypothesized that, in the absence of a brand-name news source, subjects would look to advertising as a secondary cue. While source credibility was significantly tied to their ratings of the story, advertising credibility was not. Further, subjects paid little attention to the ads, even though the comprised at least a third of the page.

Public trust in traditional news outlets has eroded in recent years. By 1998, fewer than 25% of Americans said they believed all or most of what they saw in the newspaper (Padgett, 1998). At the same time, the U.S. public is turning to nontraditional sources of information for news. In 1999, 41% of the American public reported going online to gather news, and 49% of them rated Internet news was more “credible and accurate” (p. 36) than news found in more traditional sources (Noack, 1999). Internet users’ faith in online news was confirmed by another survey that found that 80% of U.S. Web users trusted online news as much as other news media outlets; an additional 7% rated Internet news as more trustworthy (Yovovich, 1998).

Other surveys have painted a different picture. For example, the Newspaper Association of America found that while consumers were turning to other outlets for news, newspapers were still seen as more credible than television, radio, the Internet, or magazines (NAA, 2001). A Knight Foundation survey that same year found that 43% of the online audience did not feel online news was the most trustworthy source for news; in fact, 83% cited cable TV news as more credible (Harvey, 2001). And the Online News Association found that 79.8% of the online public said national newspapers were credible, whereas 67.0% gave national newspaper Web sites the same high rating (Finberg, Stone, & Lynch, 2002).

Despite the contradictory survey results, what is clear is that a significant portion of U.S. Web users rate online news as credible. Further, the plethora of recent surveys cited above demonstrate the news industry’s concern about the topic, most likely driven by its economic stake in being seen as the place to go for trusted information. The unregulated flow of information on the Internet makes it hard for the public to distinguish between what is credible and what is not (Andie, 1997). Oftentimes, Web users are left to their own devices to weed out bad information found online.

This study examines cues that individuals might use when evaluating information found on the Internet. While research experts advise Internet users to carefully examine a variety of cues when evaluating information found online, this study examines if they do so in an experimental setting, and if so, which cue carries the most weight in their evaluation of the information. In a 2 x 2 factorial design, subjects were shown online news story surrounded by cues thought to influence how individuals perceive the credibility of information. The first cue manipulated in this study was credibility of the Web site publishing the online information, either high (The New York Times online edition) or low (a personal homepage off the Web). The second cue examined was credibility of surrounding advertising, either high (for products from companies with strong reputations) or low (for companies selling or promoting dubious products). In that setting, researchers asked which cue, if any, most strongly influenced subjects' rating of the online news story and how interaction of these cues influenced their assessment of the story's credibility.

Literature Review

A February 2002 U.S. Commerce Department report placed the number of Internet users at 143 million, 54% of the American public (Associated Press, 2002). The Internet is no longer a medium primarily used by educated, affluent males; users now closely resemble the general population (Kohut, 2000). Adults cite research as the primary for using the Internet (Pew Research Center, 2000). About 20% of the U.S. public obtains daily news from the Internet (McNamara, 2000).

Growing Internet use for research and information has increased concerns about the quality of information people are obtaining and how they're assessing its credibility. The Internet relays information more quickly and to a wider audience (Paul, 1999), and users can access wide-ranging resources to the point of information overload (Schantz, 1999). "The World Wide Web may offer a wealth of information, but it provides one of the poorest examples of public disclosure"

(Consumer Reports, 2001, p. 6). Some fear that users will not be able to differentiate between what is trustworthy and what is not (France, 1999). In response, the Consumers Union has begun a Web credibility program, with goals to investigate business practices, to develop disclosure standards, and to raise consumer awareness (Consumer Reports, 2001).

Others concerned with the quality of Web information have offered checklists to help consumers spot highly credible material. Recognizing credible information requires online consumers to look at a site on several levels (Burbules, 2001). Consumers should look for markers such as the layout, visual quality, spelling, grammar, and how the data is maintained. Online consumers also should check the origination of URLs and examine the site for authority, bias, and currency (Glantz, 2000). Null (2000) advises users not to consider anything that is anonymous and to always check credentials. Elsberry (2000) urged consumers to look at the source writing the information, the sources quoted in the story, the sponsor of the Web site, and the currency of the material. Kelley (1999) recommends that users go offline to check credibility in libraries and by telephone.

Checking credibility of online information is difficult for several reasons. First, disclosure of commercial interests online is rare (Markowitz, 1999), and source contacts are frequently absent (Burbules, 2001). Burbules (2001) contends that conventional methods of assessing credibility are not feasible for the Internet because of its complex features, its speed, and its complex link structure. The self-sustaining, internal referencing nature of the Internet causes consumers to circle through Web sites when they attempt to check online information quality. Referencing and organizational systems found in conventional mediums are non-existent online (Burbules, 2001). To determine information credibility, consumers must be willing to take time to check data.

But some research suggests that online users don't do elaborate checks of information (Yukan, 2001). The typical Internet user judges Web site credibility by its appearance, functionality, and degree of professionalism. Familiar elements and ease of navigation are important, and most users merely make superficial assessments of the sites they encounter (Yukan, 2001). To examine how users are making these superficial assessments of online information, this study isolates two peripheral cues that might play a role: Source credibility and advertising credibility. The cues, used as manipulated independent variables in this study, are examined below.

Source Credibility

Credibility, along with liking, quality, and representativeness, is one of four criteria that influence attitudes toward print and online news (Sundar, 1999). Media experts define a credible source as one that is alleged to have information that is "correct" and is seen as willing to release that information without bias (Hass, 1981). Past studies (Ibelema & Powell, 2001; Slater & Rouner, 1996) have identified several elements that make up the construct of source credibility. According to Ibelema and Powell (2001), expertise and trustworthiness are the most important elements of credibility (2001).

A source is perceived to be an expert when it displays "correct knowledge" (Hass, 1981, p. 143). Information from sources rated as high in expertise lead to the greatest attitude change among those receiving the message; low expertise sources typically produce no changes in attitude (Milburn, 1991). In addition to the perceived expertise of a source, trustworthiness is integral to credibility. The honesty of the communicator is as important to message acceptance as is the expertise of the communicator (Milburn, 1991). If a source is seen as biased, or communicating the message for a purpose other than information, the credibility of the source is harmed (Hass, 1981). Greenberg and Miller (1966) found that when a source is seen as low in credibility, individuals are more resistant to persuasion.

Audience characteristics including age, race, gender, education, income, and other factors influence which sources are seen as most credible for news and information. Surveys have found that "men, urban dwellers, and people of higher socio-economic status" find newspapers more credible, while "women, rural dwellers, and people of lower socio-economic status" see television as more credible (Ibelema & Powell, 2001, p. 42). Ibelema and Powell (2001) examined the role demographics play in assessments of news sources' credibility. About 400 Alabama residents were asked to rate news networks, local news, national newspapers (USA Today and New York Times), local daily papers and national network news. This study found women gave higher positive ratings to cable news (76% positive) than men (65% positive), and that those 18-34 were more accepting of national newspapers (67% positive) than those over 65 (41% positive).

Just as media audiences differentiate between the credibility of traditional media sources, audiences clearly view online information sources as having varying levels of credibility. In examining 16 traditional and online news source, the Online News Association found that Web users ranked cable TV news sites 3rd highest, with 78.4% rating them as credible. National Newspaper Web sites ranked 9th, with 67.0% rating them as credible, and local radio Web sites ranked last, with only 41.6% of online users seeing them as credible (Finberg, Stone, & Lynch, 2002).

Advertising

In 1959, The Gallup Organization, Inc. found public opinion favorable toward advertising, with many respondents saying they liked its informative nature. But by the 1980s, studies found a growing distrust of advertising with the majority of respondents believing that ads did not present an accurate "picture of advertised products" (Shavitt, Lowrey, & Haefner, 1998, p.8). Overall, 52

% of respondents in one national survey said they did not trust advertising. Many said they felt misled by ads some of the time.

Demographic factors affect views toward advertising (Shavitt, Lowrey, & Haefner, 1998) as do endorser and corporate credibility (Lafferty & Goldsmith, 1999) and an individual's attitude "to a particular media product within a particular medium" (Bryant & Thompson, 2002, p. 289). The national survey mentioned above found that attitudes toward advertising differed depending on a person's gender, age, education, income, and ethnicity. The attitudes of males, consumers between the age of 18 and 34, those with less education and income, and nonwhites were generally more favorable toward advertising (Shavitt, Lowrey, & Haefner, 1998).

The credibility of an advertiser also plays a role in how people view advertising. Herbig and Milewicz (1995) define credibility as whether an entity can be relied on to do as it says it will. Lafferty & Goldsmith (1999) found that credible endorsers counteract advertising mistrust, and that credible advertising sources can "can influence opinions, attitudes, and/or behavior" (p. 110). High corporate credibility and the trustworthiness of a company also positively affect consumer attitudes toward advertisements. (Lafferty & Goldsmith, 1999).

The interaction of advertising and content

Advertisers have long known that effective ads are hinged on proper placement. A product's appearance in a magazine associates it "however dimly" with the editorial prestige of the magazine (Tyler, 1959, p.94). Relevance of the product in relation to the content with which the ad is placed, consistency with the mood of the context (happy or sad), level of involvement with the product or utility, and reputation of the medium all have been variables examined in exploring the link between advertising credibility and its surrounding content. One early study found that readers believed that a product advertised in McCall's magazine was of a higher quality than the same product advertised in Look or Life magazines (Bryant & Thompson, 2002).

What is less clear is whether that same link between source and advertising credibility exists online and how people rate the credibility of online ads. Revenues from online advertising skyrocketed from $1.9 billion in 1988 to $4.6 billion in 1999 alone (McNamara, 2000). Because pricing of Web banner ads is based on click-throughs, advertisers want to know in what context to best place ads so that they can improve results for their client (Shamdasani, Stanaland, & Tan, 2001). "The same source delivering the same message to the same audience might produce very different effects depending on the programming/editorial context in which the message appears," (Shamdasani, Stanaland, & Tan, 2001, p. 9).

Shamdasani, Stanaland, and Tan (2001) used the Elaboration Likelihood Model to explore attitudes toward the online ads. Existing research indicates that, "peripheral cues (such as reputation of the advertiser) are more effective for low-involvement rather than high-involvement products," (p. 11). They found that in the case of an unknown site, a low-involvement product was received favorably and had a higher click-through rate. High-involvement products fared better on an established Web site.

Hypotheses and Research Questions

While past research has examined how both traditional and online advertising is affected by the surrounding editorial content and by the credibility of the source, this study explores the relationship from a new angle. Namely, it asks how attitudes toward content are affected by the surrounding advertising in an online environment. In short is advertising credibility a cue that helps users judge the credibility of the information they find online?

While online advertising has not been examined in this context, the other credibility cue used in this study – credibility of online source – has been studied more extensively. For example, Eastin (2002) found that both source expertise and subjects' knowledge of the topic affected perceptions of online information. Other researchers have examined whether individuals rely on heuristic cues when source credibility is limited (Slater & Rouner, 1996). Because these studies were based on chatroom discussions, the findings were inclusive for the nature of the modern Web page. Therefore, the following questions are posed:

- **Hypothesis 1: Subjects who see information surrounded by high credibility source and advertising cues will rate a news story as more credible than subjects who see the same news story surrounded by low credibility source and advertising cues.**
- **Hypothesis 2: Subjects' rating of the advertising will more significantly affect how they rate the story's credibility in the low source credibility conditions than the high credibility conditions.**
- **Research Question 1: Which of the manipulated and measured independent variables are most predictive of subjects' assessment of study credibility?**
- **Research Question 2: Does source credibility affect the way subjects view the credibility of advertising on a site? Does advertising credibility affect the way subjects view the credibility of the Web site?**

Method

An experimental design was used to test the hypotheses and research questions. Subjects were recruited from nine introductory to advanced classes at a western journalism school, which resulted in 220 subjects. Of those, 65 (29.5%) were male and 153 (69.5 %) were female (two subjects declined to identify gender). Subjects ranged in age from 18 to 59 (M = 21.05, SD = 4.20), but nearly 90% were 18 to 24. Forty-seven subjects (21.4%) were freshman, 67 (30.5%) were sophomores, 65 (29.5) were juniors and 41 (18.7%) were seniors. Ninety subjects (40.9%) were non-journalism majors; 130 (59.1%) of the subjects were journalism majors. The majority (78.2%) classified themselves as Caucasian; the remaining 21.8% listed another ethnicity.

Subjects received a printed questionnaire that collected data used to construct the independent and dependent variables. Subjects were first asked demographic questions, including gender, age, ethnicity, college major, and year in college. Demographic variables were collected because past research has shown that certain characteristics are related to how individuals view online information. For example, Johnson and Kaye (1998) found that women rated the Web as significantly more credible than men. Next, subjects were asked to estimate how much they use the Internet daily, followed by a scale to assess motivations of Internet use. This information was collected because past research has found that users who relied most on the Internet for information rated the medium's credibility the highest (Johnson & Kaye, 1998). Subjects then saw one of five treatment pages, which contained combinations of source credibility cues, advertising cues, and a news story. Finally, subjects' views of the credibility of the story, the site, and the advertising were measured.

Subjects were randomly assigned to one of five conditions: 1) high credibility source/high credibility ads (N = 47); 2) low credibility source/high credibility ads (N = 44); 3) high credibility source/low credibility ads (N = 47); 4) low credibility source/low credibility ads (N = 46); and 5) a control with no source information or ads present (N = 36). The manipulation of the independent variables of source and advertising credibility are explained below.

The treatment

All subjects read the same short news story about choosing a nursing home. The story was from a Web site sponsored by a distant regional nursing home association. This story was chosen as the mock news story because it was low in relevance to the subjects. Because this study sought to examine the effects of peripheral cues on message evaluation, it was imperative to chose a topic that college students (the subjects) have low involvement with the message. According to the Elaboration Likelihood Model, involvement with an issue would trigger information processing in the central route, and subjects would evaluate the merits of the information provided rather than looking for peripheral cues to help them make their assessments (Petty & Cacioppo, 1988).

The story was put on a mock Web page, which was printed out and included as the third page of the questionnaire. The page included mock headers and footers, making it appear as if it were printed from Internet Explorer. Everything except the source credibility and advertising credibility cues was identical on the five mock Web pages created for the study.

Manipulated independent variables

Source credibility. Source credibility was manipulated by identifying the Web site publishing the story as either nytimes.com, the Web site for *The New York Times,* or chrisbrown.com, a personal homepage on the Web. The control group received no source cue. The web version of The New York Times was chosen as a highly credibility source because *The New York Times* is viewed one of four "opinion-leading" newspapers in the United States (Vivian, 2000, p.87). According a 2001 Knight Foundation survey, 95% of journalists see *The New York Times* and other national newspapers as the most credible source of news (Harvey, 2001). Additionally, as noted above, younger readers rate national newspapers has highly favorable (Ibelema & Powell, 2001, p. 42). Because subjects were college students and more than half of them were journalism majors, it was assumed that they would rate *The New York Times* as higher in credibility than a personal homepage from an unknown individual on the Web. The name Chris Brown was selected for the personal homepage so that the individual's gender or ethnicity would not be obvious. Other than the name Chris Brown, no other information was presented about the source producing the personal homepage.

To ensure that subjects were attuned to source information, subjects in each condition were given five source cues. First, on the page before the article, they read a statement telling them they were about to read a news story from either nytimes.com, the Web version of The New York

Times, chrisbrown.com, a personal homepage found on the Internet, or simply a story found on the Internet. Next, the page header designed to make the page look as if it had been printed from a Web site contained the URL either nytimes.com, chirsbrown.com, or nothing. A prominent site logo also was at the top of the page. The source cue also was given under the byline and in a small copyright notice at the bottom of the article (©nytimes.com, ©chrisbrown.com, or none).

To measure subjects' perceived credibility of the Web site publishing the story, Meyer's (1988) news credibility scale was used. The five semantic differential items *(unfair/fair; biased unbiased; doesn't/does tell the whole story; inaccurate/accurate; cannot can be trusted)* were measured on a five-point response format, with three as a neutral midpoint. Scale analyses after data collection found that the five source credibility items loaded as one factor (Eigenvalue = 3.5, explaining 69.8% of the variance) and the scale was reliable (α =. 89). Analyses demonstrated that the manipulation of source credibility was effective. The 93 subjects who saw the highly credible source (conditions 1 and 3 combined) rated it as significantly more credible (M = 3.43) than the 87 subjects who saw the low credibility source (conditions 2 and 4, M = 3.00) and the 35 subjects in the control group (condition 5) M = 3.09, F (2, 212) = 8.54, p < .001).

Ad credibility. To operationalize the construct of ad credibility, eight low credibility ads and seven high credibility ads were gathered from the Internet. The 15 ads were arranged, in no particular order, on a printed pre-test administered to a group of 17 subjects similar to the subjects used for the experimental groups. Subjects in this pilot test phase were asked to rate the ads on a seven-point semantic differential scale in which 7 indicated high credibility. The ads with the lowest and highest scores were used for the low and high credibility treatments. The high credibility ads were: Flowers.com (M = 5.3), Neiman Marcus (M = 5.3) and Panasonic e-wear (M = 5.2). The low credibility ads were CDnudes.com (M = 1.2), Free psychic reading (M = 1.2), and Sleazy Money (M = 1.2).

In the experimental conditions, the groups of high or low credibility ads were placed on the mock Web page. One large banner ad was stripped across the top of the Web page, and two large banner ads were placed below a rule and a navigational bar at the bottom of the story. In total, the ads comprised about a third of the total printed page content. The control group received no ads.

To test whether the differences in ad credibility were apparent to the subjects, a manipulation check at the end of the questionnaire asked subjects to rate the credibility of the advertising on the page. (This scale was omitted for the control group). Credibility of the ads was measured using a shortened version of Beltramini's (1982) semantic differential scale designed to measure advertising believability, which he defined as "the extent to which an ad is capable of evoking sufficient confidence in its truthfulness to render it acceptable to consumers" (p. 1). Five of Beltramini's items were used: *unbelievable/ believable; not convincing/ convincing; not credible/ credible; dishonest/ honest;* and *untrustworthy/ trustworthy.* Because of the nature of the ads, an additional item (*distracting/not distracting*) was added. Each semantic differential was rated on a five-point response format with a neutral midpoint of 3. After the data collection, scale analyses showed that the six-item scale loaded as one factor (Eigenvalue = 3.7, explaining 73.4% of the variance) and was reliable at $\alpha = .91$.

The manipulation check for ad credibility showed that the manipulation worked as intended. The 83 subjects who saw the highly credible ads (conditions 1 and 2) rated them as significantly more credible ($\underline{M} = 3.12$) than the 87 subjects who saw the low credibility ads (conditions 3 and 4, $\underline{M} = 2.44$, $t\,(168) = 5.95$, $p < .001$).

Measured independent variables

Individuals who receive any message experience a range of attitude change depending upon numerous factors including age, gender, and education level. "Most studies show that individuals who are higher in intelligence tend to be less easily persuaded . . . a similar argument can be made for education" (Milburn, 1991, p. 2). Therefore, in addition to the manipulations of source and advertising credibility, several other individual traits that might have lead to variation in rating of the story credibility were measured. These included demographic data, information on amount of Internet use and motivations for using the Internet.

News articles and surveys guided questions about time spent using the Internet. For example, in November 2001, the average estimate of online use was reported at 9.8 hours per week (Klein, 2001). Because respondents might have an easier time estimating daily use, respondents were asked to estimate all online use on an average day in one-hour intervals from none to six or more hours. Respondents also were asked to categorize their time daily online for five tasks: researching, communicating, consumer business, entertainment, and other. The five categories of tasks were taken from similar survey questions used by the Pew Research Center (2002) and by the University of Maryland (1998). Finally, respondents were asked to classify themselves on a four-point item from rare Internet user to heavy Internet user.

To measure uses and gratifications of Internet use, the 27-item scale used by Papacharissi and Rubin (2000) was shortened to 15 items (four interpersonal utility motives, three pass time motives, four information seeking motives, two convenience motives and two entertainment motives). Like Papacharissi and Rubin, the scale was measured on a 5-point response format. This study asked subjects to respond on a Likert format (1 = strongly disagree, 5 = strongly agree) to each as a motivation for going online. Principal components factor analysis on the scale suggested four coherent subscales, each measuring a different use or gratification. The first (entertainment/pass time) contained six items that loaded as one factor (Eigenvalue = 3.7, explaining 62% of the variance), and was reliable at a = .88. A second sub scale (information seeking) contained two items that loaded as one factor (Eigenvalue = 1.6, explaining 80.6% of the variance) and was reliable at a = .76. The third sub scale (communication) contained two items that loaded as one factor (Eigenvalue = 1.6, explaining 77.6% of the variance) and was reliable at a = .71. The final sub scale (social) contained four items (Eigenvalue 2.1, explaining 51.7% of the variance). That scale was reliable at a = .69. For each sub scale, a score was computed subject by averaging the items to create the scores for the independent variables in the analyses below.

Dependent variables

The main dependent variable used in this study was the subjects' rating of the news story credibility. When applied to a news story, credibility "may be defined as a global evaluation of the objectivity of the story" (Sundar, 1999, p. 380). Perceived credibility of the story was measured with a shortened, slightly modified version of the 12-item News Credibility Scale by Gaziano and McGrath (1980). The six semantic differentials borrowed from the scale were *fair/unfair, biased/unbiased, tells/doesn't tell the whole story, accurate/inaccurate, can/can't be trusted, is opinionated/factual,* and *was written poorly/well.* One additional item (*is based on weak/strong arguments*) was added to tap into the quality of the information in the story.

The eight items used in the scale loaded as one factor (Eigenvalue = 3.5, explaining 43.9% of the variance) and was reliable at a = .81. A story credibility score was created by averaging the eight scores for each subject in which higher scores indicate a higher credibility rating. This story credibility rating is used as the main dependent variable in the analyses below. Averages also were computed for both the source credibility and advertising credibility, in which higher scores indicate a higher estimate of credibility. These were used as variables in Research Question 3.

Results

Hypothesis 1: Subjects who see information surrounded by high credibility source and ad cues will rate the news story as more credible than subjects who see the same news story surrounded by low credibility source and ad cues.

To test this hypothesis, means were compared among the five conditions through a one-way ANOVA (Analysis of Variance). No significant differences among the groups in their rating of story credibility emerged. Condition 1, which received high credibility source an advertising cues, rated the story exactly the same as Condition 4, which received all low credibility cues (M = 3.29 to M = 3.25). In fact, means across all treatment groups were virtually identical, ranging from 3.16 to 3.29. Therefore, Hypothesis 1 was not supported.

Hypothesis 2: Subjects' rating of the advertising will more significantly affect how they rate the story's credibility in the low source credibility conditions than the high credibility conditions.

To test this hypothesis, correlations between subjects' assessment of the story's credibility and both their assessment of the source credibility and the advertising credibility were run. Because the control group saw no ads and did not receive the measure of advertising credibility, that group was dropped from these analyses. Overall, when all subjects were included, a significant correlation was found between source credibility and story credibility (Pearson correlation coefficient = .57, $p < .001$), but no significant correlation was found between ad credibility and story credibility overall (See Table 1).

Insert Table 1 about here.

To further analyze this finding, the subjects' scores were analyzed by condition. As expected, source and story credibility were significantly correlated in every condition, and most strongly correlated in the low credibility source conditions. The relationship between the subjects' assessment of the advertising credibility and their rating of the story was weak at best. Only in condition 3, (high credibility source and low credibility ads), was the relationship significant (-.34, p <. 05). For these subjects, their assessment of the story was significantly negatively correlated with their assessment of the ads. This could be a function of the relationship between assessment of source credibility and advertising credibility, which will be tested in Research Question 2 below. Therefore, Hypothesis 2 was not supported.

Research Question 1: Which of the independent variables are most predictive of subjects' assessment of study credibility?

To answer this research question, regression analyses were run on the three major groups of independent variables collected in this study: demographics, amount of Internet use, and Internet uses and gratifications. After each set of independent variables was run, treatment was added to the regression equation to see how these variables interacted with treatment and whether treatment emerged as a significant predictor of the assessment of story credibility.

Demographics. Age, gender, year in college, major, and race were regressed on subjects' assessment of story credibility. The only demographic factor that emerged as a significant predictor was major ($B = .209$, $p < .03$). When treatment that the subject received was entered into the equation, major still was the only predictor variable. To further analyze this finding, majors were broken into two groups, journalism ($N = 130$) and all other majors ($N= 90$). Journalism majors ($M = 3.17$) rated the story's credibility as lower than non-journalism majors ($M = 3.33$), a difference approaching significance ($t\,(213) = .1.90$, $p < .058$). Finally, a two-way ANOVA was run to test the interaction of major and treatment on assessment of story credibility. A main effect for major emerged, as expected ($F\,(1,215) = 4.58$, $p < .05$), and a significant interaction between group and major also emerged ($F\,(4, 215) = 2.51$, $p < .05$). Journalism majors rated the story as lower than other majors in every group except the low credibility source, high credibility advertising condition, in which the story received the highest rating by the journalism majors (see Chart 1).

Insert Chart 1 about here.

Amount of Internet use. Subjects' self estimate of the total hours daily researching online; communicating online; conducting consumer business online; entertainment online; and total hours online, along with their self classification of amount of Internet use (from rare to heavy user) were regressed on their assessment of story credibility. Self –classification of Internet was the only significant predictor (B = .231, p < .005) in the regression model. When treatment the subject received was added into the analysis, self-classification of Internet use still was the only significant predictor. To further analyze this finding, subjects were grouped into either light (rare and light users) or heavy (moderate and heavy users) users. Heavy users (M = 3.30) rated the story as significantly more credible than light users (M = 3.14, t (213) = 1.94, p < .054). A two-way ANOVA run to examine the interaction of self classification of Internet use and treatment on assessment of story credibility revealed a main effect for self classification of Internet use, as expected (F (1, 215) = 3.12, p < .053). No main effect for treatment or no interaction emerged.

Uses and gratifications. The uses and gratifications scale used in this study produced four coherent motivations for Internet use: communication, social, information seeking, and pass time/entertainment. All of these were regressed on assessment of story credibility. None of them emerged as a significant predictor of story credibility. When treatment was added to the regression, again, no variables emerged as significant predictors.

Research Question 2: Does source credibility affect the way subjects view the credibility of advertising on a site? Does advertising credibility affect the way subjects view the credibility of the Web site?

This research question was tested in two ways. First means were compared between groups, and then correlations were run between the two measures. First, those who received a high credibility source were compared with those who received a low credibility source, regardless of advertising cue received, on their advertising credibility scores. While those who saw the high credibility source rated the ads as slightly more credible (M = 2.87) than those in the low credibility source conditions (M = 2.67), the difference was not significant. Comparing ad credibility scores across the four treatment groups, a significant difference emerged (F (3,166) =

12.96, $p < .001$). But the differences in evaluation of the advertising seemed to be driven more by the advertising cue than by the source cue (See Table 2).

Next, subjects were broken down into those that saw either high or low quality advertising, regardless of source credibility cue, and compared on source credibility scores. Those in the high credibility ad condition rated the Web site as slightly more credible ($M = 3.29$) than those in the low credibility ad condition ($M = 3.17$), but, again, the difference was not significant. Looking across the four treatment groups, a difference emerged on the advertising credibility score ($F(3,175) = 5.70$, $p < .001$). But again, the differences that emerged were seemingly more driven by source credibility than the advertising cue (See Table 2).

Insert Table 2 about here.

Next, correlation tests were run between subjects' rating of the credibility of the Web site and their rating of the advertising credibility. Overall, there was a very weak positive correlation between the two measures (Pearson correlation coefficient = .13, $N = 179$, $p < .10$). A significant correlation between subjects' assessment of the advertising credibility and the source credibility emerged only in condition 1 (high quality ads from nytimes.com, .33, $p < .05$). No significant relationship was found in these scores for the other conditions.

Discussion

Source and advertising cues

Do source credibility and advertising credibility make a difference in the way users view material online? On first glance, the answer would appear to be no. Although the subjects clearly differentiated between the high and low quality conditions, their rating of the news story's credibility was identical across treatment groups. The news story could have been of such low relevance to the subjects that virtually no cue would have changed their assessment of it. Overall and in all conditions, the subjects' evaluation of the story was slightly above the neutral midpoint of three on the scale.

However, results for the second hypothesis showed that subjects' evaluation of the source was significantly correlated with their assessment of the story credibility in every condition. Further, correlations between source and story credibility scores were strongest in the low credibility conditions. This finding would suggest that source did make a difference to the subjects, supporting the idea that brand credibility matters online. Subjects' story and source credibility ratings were most strongly related in when they read information from a personal homepage that they had no preconceived notions about. Perhaps subjects paid more attention to the source cue because of its non-brand quality.

The literature suggested that the Web site source would be a primary cue, and this study suggested that advertising would be noticed as a secondary cue. While it was hypothesized that in the absence of knowledge about a source's credibility, subjects would base their evaluation of the story on the surrounding advertising, that clearly was not the case. Overall, subjects' rating of the advertising was not related to their evaluation of story credibility. Further, the evaluation of the ads and the story were not at all related in the low source credibility conditions (chrisbrown.com). The two scores were significantly correlated only in the group that saw the high credibility source with low credibility ads (condition 3). This was a negative correlation -- as the estimation of advertising credibility decreased, the estimation of story credibility increased. One explanation could be that the source cue was so powerful that subjects might have noticed the dubious advertising on the nytimes.com but still seen the story as credible regardless of their lower ratings of the advertising.

Another explanation could be that low credibility ads looked more out of place on the nytimes.com and therefore, were noticed more and more critically evaluated. To examine that idea, data analysis on the last item on the questionnaire was conducted. This item came after the manipulation check of advertising and simply asked subjects' how much attention they paid to the advertising on the page. The results were eye opening in explaining the lack of support for Hypothesis 2. Of the 178 subjects who saw ads, only 3 (1.7%) said they looked at it very closely. Twenty-three (12.9%) said they noticed it; 71 (39.9%) said they gave it a quick glance; and the largest group (81 or 45.5%) said they didn't notice the advertising at all. Chi-square analysis found no significant differences in these responses by treatment.

If nearly half of the subjects did not notice the ads, how then was the manipulation of advertising credibility successful? Observation in collecting the data suggested that while subjects were told in writing and verbally not to look back in their packets when completing their credibility assessment, at least a small percentage of the respondents looked back when they got to the advertising rating scale. Again, this supports that subjects didn't notice the ads when reading and evaluating the story.

The subjects' inattention to the ads also could explain why the relationship between their assessment of source credibility and advertising credibility was weak at best. While differences emerged among the four treatment groups for both of these measures, the differences appeared to be driven by the manipulation of the related variable, not by the other manipulation. For example, differences in the advertising evaluation were seemingly due to the manipulation of ad credibility rather than of source credibility. However, a significant correlation between the two scores was found for the subjects in condition 1, that saw the high credibility source and ads. In that case, as with above, it is likely that the strong source credibility cue was a factor, perhaps reinforcing already strong assessments of these ads.

Overall, the evaluation of the story credibility was more closely tied to source cues rather than advertising cues. Why? Subjects clearly paid little attention to the advertising, an interesting finding in and of itself. While the presentation of the advertising in this study was not identical to what Web users would encounter online (it was not in color nor animated), it must be noted that the ads were placed prominently on the page and comprised a third of the printed page. Further, the three large banner ads were stripped at the top and the bottom of the page, completely framing the story. The ads contained the only visuals found on the page, and the font size used for the text was at least three times the size of the other text on the page. Future research should investigate attention to and the effects of advertising in a more realistic Web setting. But this study suggests that Web users have trained themselves to block out Web advertising, even those with large eye-catching headlines such as "Sleazy Money" and "The Best Nudes on the Net."

Individual factors

Of all the demographic factors investigated in this study, only self-estimate of Internet and college major use emerged as significant predictors of variations in the story credibility scores. Subjects who said they were heavy Internet users rated the story more credible than light Internet users. This finding is consistent with past research demonstrating that heavy users of the Internet evaluate all online information as more credible than light users (Eastin, 2001). The finding that that journalism majors were more critical of the story than non-journalism majors might be explained by the fact that the story was not written like the news stories they are trained to write in their program. While parts of the story were attributed to governmental agencies and data, the bulk of the story was a checklist on selecting a nursing home that carried no attribution. While this type of information is common online, journalists may be especially aware of how it differs from "traditional" news. And at least one study has shown that journalists are more critical of some types of online information than the general public. In the study, for example, 30% of journalists surveyed considered local TV news Web sites to be credible, while 60% of the general public rated them as credible (Rating the online side, 2002).

More perplexing was that major was the only individual factor to interact with treatment. Journalism students in condition 2 (a low credibility source with high credibility ads) rated the story higher than non-majors, whereas non-majors rated the story higher in all other conditions. One explanation for the cross over in condition 2 could be that journalism students, who also study advertising in their courses, paid more attention to the advertisements. However, Chi-square analysis showed no differences between majors and non-majors in their attention to the ads overall or in condition 2. This finding calls out for further study.

The difference between the two groups' assessment of the story was greatest in the control condition, where journalism students rated story credibility the lowest. Non-journalism majors in that condition, in contrast, rated the story just below condition 1 (nytimes.com with high credibility ads) as the second highest in credibility. Without any source or advertising cues, journalism majors may have critically evaluated the story on its merits and determined that the story was not credible because of the story factors discussed above.

Limitations and suggestions for further study

As with many experimental studies, this project used college students as subjects. While this population is not representative of the general population, the design had its strengths in isolating variables to examination causation and correlation. But while the subject pool used compromised external validity, college students, teens and young adults are moderate to heavy Internet users. And those studying Internet credibility have expressed concerns about these groups' evaluation of online information. Another limitation, noted above, was the presentation of the Web ads. Because of this, we cannot say with certainty that the same results would be found in a true online environment. The story should be repeated with subjects viewing an actual Web page with flashing ads. Another variation would be to repeat the study with a story of higher relevance to subjects. Finally, because of subject limitations, this study used a fully crossed 2x2 factorial design with an offset control condition. A fully crossed 3x3 design where subjects saw the ads without the source cues and the source cues without the ads would have allowed us to isolate variables better. This design would have been useful in investigating the hypotheses further.

Conclusion

Overall, this study suggests that source cues matter, while advertising cues are largely ignored, when Web users rate the credibility of information online. The significant relationship between source and story evaluations indicates that users put a lot of faith in source cues. Media groups with established reputations, such as *The New York Times*, may be able to periodically publish low credibility products without readers developing distrust of the source. Likewise, underdog news sources must struggle to build credibility with readers, because the information is not always evaluated on its own merits.

The non-finding for the advertising cues is perhaps more significant if it indicates that online users do not notice ads. If product ads are not making a difference to online users, the economic implications could staggering, especially to traditional media organizations that are trying to transfer their advertiser-supported business model to the Web. If advertisers become frustrated with lack of attention to ads on news and information sites and seek other venues, online media organizations will have more pressing issues to examine than online credibility.

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Table 1: Pearson correlation coefficients between story, source, and advertising credibility

Groups of subjects	***Number of subjects***	*Correlation of source credibility and story credibility*	*Correlation of ad credibility and story credibility*
	All subjects	.57***	-.07
Condition 1: High credibility source/high credibility ads		.44**	-.04
Condition 2: Low credibility source/high credibility ads		.59***	.16
Condition 3: High credibility source/low credibility ads		.51***	-.34*
Condition 4: Low credibility source/low credibility ads		.74***	-.06

*p < .05, **p < .01, ***p <.001

Chart 1: Story Credibility

Journalism vs. Other majors

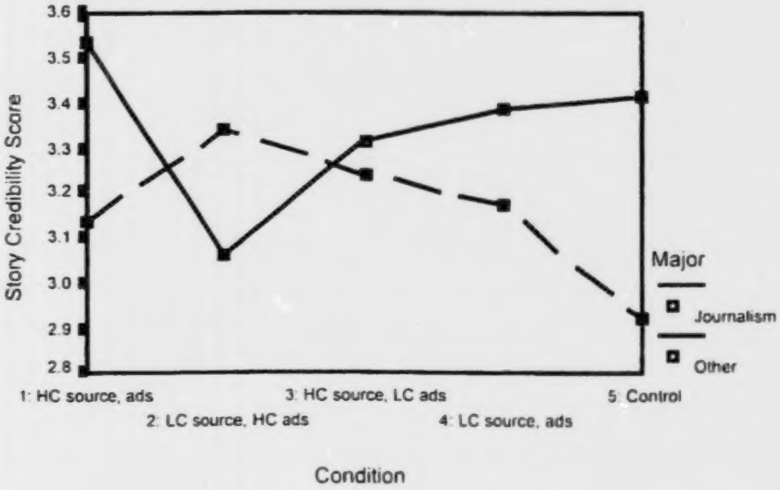

Table 2: Means by treatment group	*Source credibility scores*	*Ad credibility scores*
Condition 1: High credibility source/high credibility ads	3.54	3.25
Condition 2: Low credibility source/high credibility ads	2.99	2.97
Condition 3: High credibility source/low credibility ads	3.32	2.49
Condition 4: Low credibility source/low credibility ads	3.01	2.39

Running head: DISRUPTIVE AND COOPERATIVE INTERRUPTIONS

MC+S

Disruptive and Cooperative Interruptions in Prime Time Television Fiction: The Role of Gender, Status, and Topic

Xiaoquan Zhao
Doctoral student
The Annenberg School for Communication
University of Pennsylvania
3620 Walnut Street
Philadelphia PA 19104
Tel: (215) 573-8366
Email: xzhao@asc.upenn.edu

Walter Gantz
Professor
Department of Telecommunications
Indiana University
Bloomington IN, 47405

Abstract

Speech characteristics of male and female characters in fictional television have received only scant attention in media content research. A content analysis of prime time television revealed that male characters were more likely to initiate disruptive interruptions than female characters while female characters were more likely to use cooperative interruptions than male characters. Such differences, however, were moderated by status differential between interactants and topic of conversation.

Disruptive and Cooperative Interruptions in Prime Time Television Fiction: The Role of Gender, Status, and Topic

Differential representation of men and women in the media has received a good deal of attention from mass communication researchers (e.g., McShane, 1995; Seidman, 1992; Signorelli, McLeod, & Healy, 1994). A shared theme in this line of research is that the way in which people, particularly women, are portrayed and treated in the media reflects and reinforces the commonly held beliefs about them in society at large (Gunter, 1995). However, while research on men and women's physical and social images in the media abounds, the two sexes' speech characteristics in the media world are seldom investigated. This scarcity is especially surprising given the fact that language plays a central role in the creation and development of media characters. In view of this, the present research focused its attention on one particular conversational phenomenon, the interruption, in prime time television fiction. A week's worth of prime time sitcoms and dramas from the four major commercial networks were content analyzed. The patterns in which different types of interruptions are distributed between male and female television characters were investigated. The effects of status and conversation topic on the occurrence of interruptions and their interplay with gender effects were also examined.

Why interruptions in television fiction?

Studying interruptions on television is a meaningful undertaking on several accounts. First, the media often serve as a source of guidance for audiences. Indeed, the "investigation of gender role patterns in television program content rests on the assumption that by providing an experience of how characters react to different situations, television drama functions as an orientation to the outside world" (Barbatsis, Wong, & Herek, 1983, p. 148). In this light, serious concern over television dialogue's influence on people's perceptions, attitudes, and communicative behaviors with respect to gender seems to be warranted, given the salience of television in most people's lives. Indeed, if television viewers are constantly exposed to conversations featuring, for example, an unfavorable interruption pattern for women, we have reason to suspect that the viewers' own views and behaviors might reflect this pattern in the long run.

Secondly, studying interruptions on television may add a new perspective to our understanding of gender stereotypes presented by this medium. Stereotypical portrayals of women are often witnessed on television. However, the bulk of the research on televised female stereotypes is focused on either physical appearance (e.g. Signorelli, McLeod, & Healy, 1994), vocational positions (e.g. Vande Berg & Strechfuss, 1992), behavior patterns (e.g. Barner, 1999), or personality traits (e.g. Seidman, 1992). Comparatively less attention has been paid to the stereotypical language characteristics of female characters. The results of the present study, from the perspective of interruptions, may proffer empirical evidence to demonstrate the existence of gender stereotypes on television.

Finally, fictional television dialogue offers an additional data source for interruption research. Actually, using the media as a data source is not unusual in speech communication research and conversation analysis (e.g., Bull & Mayer, 1988; Coon & Schwanenflugel, 1996; Hutchby, 1992). The advantages of doing so are also well documented in the literature. Lakoff and Tannen (Tannen, 1994) argued that, "artificial dialog may represent an internalized model or schema for the production of conversation—a competence model that speakers have access to" (p.139). In other words, compared to naturally occurring interactions, conversations in movies and fictional television may be more centrally expressive of the communicative principles (including gender-related beliefs) widely held by society members. This view was echoed by other language researchers who believe that the media, especially television drama, "provides widely available representations of language use in the real world" (Wober, 1992, p.61, quoted in Weatherall, 1996).

Defining interruption

Although few mass communication scholars have studied conversation interruptions (three rare examples are Brinson & Winn [1997]; Lauzen & Dozier [1999]; Zhao, Barnett, Cai, & Crane [2001]), a rich literature on this interactional phenomenon has accumulated in the realms of social linguistics and sociology. A widely assumed theoretical perspective in the research on conversation interruption is that of conversation analysis, a sociological approach derived from the ethnomethodological studies of verbal interaction. The cornerstone of the conversation analysis framework is the rules of turn-taking (Sack, Schegloff, & Jefferson, 1974). According to these rules, speakers take their turns to contribute in a conversation, but only one person speaks at a time. The turn, thus, is not merely a segment of speech from a single person; it denotes speakership--the right to speak. Speakership switches can smoothly happen when the current speaker's turn has reached a Transition Relevant Place (TRP), such as the end of a sentence. When the second speaker simply cuts into the first speaker's turn and starts talking, rules of turn-taking are violated and an interruption happens.

Based on this understanding, the present study formally defines interruption as follows: An interruption is an act in which a new speaker starts a turn while the current speaker has not yet reached a possible point of completion in his turn, to the (potential) effect that a smooth switch between speakers is made impossible. Three clarifications should be added here. Firstly, "overlaps" in Zimmerman and West's sense (1975) do not count as interruptions. That is, when "a speaker other than the current speaker begins to speak at or very close to a possible transition place in a current speaker's utterance (i.e., within the boundaries of the last word)" (Zimmerman

& West, 1975, p.114), it does not count as an interruption, because the sign of the first speaker's giving up the floor is already very clear, and his speakership is most likely not threatened. Secondly, interruptions do not necessarily involve simultaneous speech. The interruptor may begin speaking right upon the completion of a word in the middle of the current turn, and the current speaker may then relinquish the floor without even attempting to further advance his turn. This kind of "silent interruption" (Ferguson, 1977), although relatively rare, represents a very "clean" act of usurping speakership on the part of the interruptor, thus should not be neglected (cf. James & Clarke, 1993). Thirdly, minimum responses do not count as interruptions. In the English speaking culture (perhaps in many other cultures as well), active listening is a valued feature of conversation. While the current speaker is speaking, the listener often will voice short utterances such as "mhm," "u-huh," "yeah," etc, so as to show understanding, agreement, or simply "I am listening!" These short utterances are termed "minimum responses." They share many of the interruption's structural features, but most researchers of interruption have excluded them from their data sets because they generally are not used to bid for speakership; they are fundamentally different from interruptions, which necessarily involve the violation of other people's turn space.

Gender differences in interruption

Due to the social significance of gender, also because of the popular view that interruption is essentially an expression of power and dominance, most studies on interruptions have either focally or tangentially addressed gender differences. This tradition started with the classic study by Zimmerman and West (1975), in which 20 same-sex two-party conversational segments and 11 cross-sex two-party conversational segments were analyzed. It was found that fewer interruptions happened in same-sex conversations than in cross-sex conversations. Further, in same-sex conversations, interruptions appeared to be evenly distributed between speakers, while in cross-sex conversations, almost all the interruptions were initiated by the male speakers. Based on the conversation analysis view that gender differences in the distribution of turns are indeed a matter of social advantage, the authors concluded that, "men deny equal status to women as conversational partners with respect to rights to the full utilization of their turns," and that "male dominance is exhibited through male control" of the "micro-institution" of conversation (Zimmerman & West, 1975, p.125). Many other studies have similarly found that men interrupt more than women, and to varying degrees have embraced this male dominance point of view (e.g. DeFrancisco, 1991; Donaldson, 1992; Makri-Tsilipkou, 1994; Smith-Lovin & Brody, 1989; West, 1979; West & Zimmerman, 1977, 1983; Willis &Williams, 1976). This gender difference in interruption was also found among children, where boys tended to interrupt more than girls (Esposito, 1979; Peterson, 1986). Moreover, in a recent meta-analysis, Anderson and Leaper (1998) found that the tendency for men to interrupt more than women was significant across 43 published studies.

However, studies reporting no differences between sexes also abound (e.g. Beattie, 1981; Crown & Cummins, 1998; Dindia, 1987; Hannah & Murachver, 1999; Kennedy & Camden, 1983; Kollock, Blumstein, & Schwartz, 1985; Lauzen & Dozier, 1999; Leet-Pellegrini, 1980; Marche & Peterson, 1993; Ng, Brooke, & Dunne, 1995; Robinson & Reis, 1989; Roger & Nesshoever, 1987). In fact, some studies even found women to interrupt more than men (Murray & Covelli, 1988; Nohara, 1992). Arguably the most acid critics of Zimmerman and West's work, Murray and Covelli (1988) collected lengthy conversations from several different settings and then coded the 400 interruptions in the data using Zimmerman and West's coding instructions. They found that across contexts women interrupted men more than twice as often as men interrupted women. "Contrary to the assertion of Zimmerman and West…women are quite capable of interruption" (p.103).

Some synoptic reviews of the literature on interruption have also produced evidence against the "men interrupt more than women" proposition. In their 1989 report, Smythe and Schlueter summarized ten studies on interruption and found that five of them did not find significant differences; three found that men interrupted women more; and two found that women interrupted men more. James and Clarke (1993) and Aries (1996) likewise reported that the majority of the studies they reviewed found no significant sex differences.

A typology of interruptions

The inconsistency of findings in the research on interruption has triggered some critical reviews of the literature (Anderson & Leaper, 1998; Aries, 1994; James & Clarke, 1993). A common realization among these critiques is that interruption is a far more complex phenomenon than is assumed in many studies, especially the earlier ones. Instead of embracing a notion of interruption with uniform properties, development in this research has strongly pointed to the necessity of further classifying interruption on multiple levels. As a strategy to bid for the floor, for example, interruption can be either successful, i.e., the interrupter successfully obtaining the floor after competing with the current speaker, or unsuccessful, i.e., the interrupted retaining the floor in spite of the interrupter's effort to take it over (e.g. Kollock, Blumstein, & Schwartz, 1985; Smith-Lovin & Brody, 1989).

The typology underpinning this study, however, is more about the nature of interruptions than their structural features. As early as in the 1970's, researchers began to notice that, in certain kinds of interactions (e.g. among women in rap groups), interruptions were frequent, but seldom objected to, and often seemed to be supportive and cooperative in nature (Kalcik, 1975).

Many other researchers have made similar observations in their studies and noted that it is an overly simplistic view to treat interruption as an invariable symbol of dominance--interruptions are also used to show support, build rapport, and enhance solidarity in actual interactions (e.g., Dindia, 1987; Goldberg, 1990; Kennedy & Camden, 1983; Smith-Lovin & Brody, 1989; Tannen, 1994).

Based on the insights provided by previous research, the present study proposes a dichotomy distinguishing between cooperative and disruptive interruptions. Cooperative interruptions include those showing agreement or support; helping finish the current speaker's thought; or asking for clarification and elaboration. These types of interruptions either facilitate the carrying on of the present topic, or indicate rapid return of the floor to the interrupted party, and may have a potentially positive influence on the interpersonal relationship between speakers. Disruptive interruptions, on the other hand, include those showing disagreement, rejection, or simply disinterest; or they may be geared toward subject change. These types of interruptions often serve as indications of a struggle for control over the communication, thus having the potential to bear negatively on the interpersonal relationship between speakers. Note that this dichotomy, unlike some earlier classifications (e.g., Goldberg, 1990; Smith-Lovin & Brody, 1989), does not accommodate a neutral position. The reasons are: firstly, it is very difficult for a conversational incidence to be devoid of any social meaning. Even a simple hearing check could show active listenership, thus leaning toward the cooperative end of the dichotomy; secondly, the present study will examine conversations in television fiction, which, no matter how casual they sound, are well scripted. It is not likely that there would be any "interruption attempts that were so short that their content could not be determined" (Smith-Lovin & Brody, 1989, p.428).

Status and topic

Previous literature on interruption also suggests that the nature and distribution of interruption may be contingent upon some subject and situational variables. One important subject variable is status. Status difference in a conversation environment sometimes could outweigh the effects of gender differences such that individuals with high status would interrupt lower status individuals more than the reverse regardless of their respective sexes (Kollock, Blumstein, & Schwartz, 1985). Given the dichotomy proposed in this study, it would be interesting to see whether such powerful effects of status, if they exist in the television world, vary across different types of interruptions.

The topic of conversation also matters in determining how interruptions are allocated between men and women. In conversations dealing with "female areas of expertise," women may perceive themselves as more "authoritative" and feel more justified in initiating interruptions (James & Clarke, 1993). In conversations with sex-neutral goals or tasks, however, males are likely to not only interrupt more, but also interrupt females more than males (Smith-Lovin & Brody, 1989). Besides, when the conversation is casual and unstructured, interruptions would most likely be supportive and solidarity-building than dominance-related (Dindia, 1987). These findings strongly recommend that the present research also take into consideration the role of topic of conversation while looking into gender differences in interruption.

Hypotheses and research questions

Literature on language and gender shows that, generally, males are loud, dominating, aggressive, and straight to the point in their speech. Women, on the other hand, are gentle, friendly, polite, and use many details when involved in conversation (Basow, 1986; Holmes, 1995; Tannen, 1994). Based on these findings, it seems reasonable to predict that men and women might be scripted to use interruptions differently in television fiction. More specifically, men in television fiction might be more inclined to use interruptions to disagree, to reject, or simply to change topic; women, on the other hand, might be portrayed to use interruptions more often to agree, to support, to ask for clarification, or to indicate interest in the current topic. Such differences between men and women have been documented in some empirical studies of naturally occurring interruptions (Chan, 1992; Makri-Tsilipakou, 1994; also see James & Clarke, 1993). It seems reasonable they also would be present in television conversations. Hence the first hypothesis:

> H1: In prime time television fiction, male characters are more likely to use disruptive interruptions while female characters are more likely to use cooperative interruptions.

As an interactional phenomenon, the nature of interruptions may also be influenced by the sex of the targeted individual. Literature specifically dealing with this issue is meager and short of reliable conclusion (cf. James & Clarke, 1993). Some studies suggest that interruptions are more likely to be disruptive in nature when interruptees are females than when they are males (e.g., Smith-Lovin & Brody, 1989). Other studies, however, suggest that the gender composition of the interacting group is not a significant moderator of disruptive interruptions (e.g., Anderson & Leaper, 1998). This mixture of findings, apparently, defies any definitive predictions on the sex of the recipient of disruptive interruption in the present study.

The allocation of cooperative interruptions between male and female interruptees is even harder to predict. A few studies have found that, in real life conversations, women use interruptions overwhelmingly for cooperative reasons, and they interrupt men and women equally; men, on the other hand, use interruptions less often for cooperative purposes, and they discriminate in interruption attempts such that they interrupt females more than males (Makri-

Tsilipakou, 1994; Smith-Lovin & Brody, 1989). These findings seem to suggest that, considering both the frequency and typology of interruptions, men might receive a larger share of cooperative interruptions than women. This conclusion, however, has to be considered with caution, because the research evidence did not address the possibility that men use most disruptive interruptions on other men while women use most cooperative interruptions on other women. In view of this, the present study will propose a general research question rather than specific hypothesis to examine the role of interruptee gender in the organization of interruptions in television conversations:

R1: What is the relationship between the sex of the interruptee and the type of the interruption in prime time television fiction dialogue?

In this study the role of status is also examined. As was mentioned above, status tends to impact the distribution of interruptions such that high status interactants interrupt lower status interactants more than the reverse; sometimes the effects of status may even override the gender effects in interruption (Kollock, Blumstein, & Schwartz, 1985). However, it should be noted that the effects of status observed in Kollock at al. (1985) were based on a dominance approach, and that the gender differences they considered were only differences in the total number of interruptions initiated by men or women. The present research argues for a typological dichotomy and distinguishes between disruptive and cooperative interruptions, the former related to dominance, the latter solidarity. With this distinction in mind, it seems reasonable to predict that characters of higher status may be more likely to initiate disruptive interruptions while characters of lower status may be more likely to utilize cooperative interruptions. In other words, H2: Status influences the distribution of interruptions in prime time television fiction such that higher status characters are more likely to interrupt disruptively and lower status characters are more likely to interrupt cooperatively.

Given our focal concern over gender differences, this study also asks to what extent status may be able to suppress or moderate the effects of gender on the distribution of the two types of interruptions.

R2: Controlling for status, does gender (still) make any difference in the distributions of disruptive and cooperative interruptions in prime time television fiction?

As discussed earlier, topic of conversation may also play a part in shaping the distribution of interruptions. The present study makes a distinction between social-interpersonal and work-related conversations in television dialogue. Experimentation has found that cooperative interruptions are characteristic of casual, unstructured conversations (Dindia, 1987), whereas disruptive interruptions are particularly likely to emerge in task-oriented conversations that may involve conflict and competition (Kollock, Blumstein & Schwartz, 1985; Roger & Nesshoever, 1987; see also James & Clarke, 1993). Although the distinction between casual and task-oriented conversations in well-controlled experimental settings may not be identical to the general topical distinction between social-interpersonal and work-related interactions, it is safe to say that these two distinctions will be consistent in most cases. In light of the above-mentioned research findings, this study predicts that

H3: In prime time television fiction, disruptive interruptions are more likely to happen in work-related conversations than in social-interpersonal conversations; cooperative interruptions are more likely to occur in social-interpersonal conversations than in work-related conversations.

As is in the case of gender and status, the relationship between gender and conversation topic also raises an interesting issue - gender and topic may work in the same direction and confound with one another. This could easily be the case because in the television world men typically are found in work-related environments while women appear more often in domestic or social settings (Gunter, 1995). In view of this, the present study asks whether different patterns of gender differences emerge in conversations with different topics.

R3: In prime time television fiction, does gender influence the distributions of disruptive and cooperative interruptions differently as conversation topic varies?

Method

Data for this study came from a videotape database gathered for another large-scale study conducted at Indiana University. This database contains a composite week of television programming from ten networks between March and July 2000. The present study, however, only used prime time fiction (sitcoms and dramas) from the four major commercial television networks: ABC, CBS, NBC, and FOX.

Conversations in the selected television fiction shows were coded for interruptions. Interruptions were identified by two crucial criteria: 1. The current speaker's turn is stopped before it shows any sign of reaching a transition relevant place. 2. The second speaker starts speaking in the middle of the current turn with the intention of taking over the floor. As mentioned before, "overlaps" and "minimum responses" did not count as interruptions. Situations with multiple parties speaking at the same time, for example in chaotic crime scenes or hospital scenes, were not considered either because in such situations it was generally hard to tell who is speaking to whom.

Coding instrument

A coding instrument was designed to code the interruptions encountered in the sampled television shows. The variables coded include: network (ABC, CBS, NBC, or FOX), genre (sitcom vs. drama), program, gender and age (minor, young adult, adult, or senior) of the interruptor and interruptee, status differential between the interruptor and interruptee (positive vs. neutral vs. negative), conversation topic when interruption happens (work vs. social-interpersonal), and type of interruption (disruptive vs. cooperative). Operational definitions of key variables in the instrument are offered below.

Gender. Both the interrupters and interruptees were coded for gender. Three levels were given in the instrument: male, female, unknown/undetermined.

Status differential between interruptor and interruptee. The effect of status was measured via the status differential between the interruptor and interruptee. Status differential was coded directly rather than by coding interactants' statuses first and then calculating out the status differential for the interruption. This approach was based on the following considerations: First, coding the status of each interactant would require a very sophisticated coding scheme if reasonable validity is to be achieved. Second, compared to coding status differential directly, coding each interactant individually would be less sensitive to the contextual particularities of each interruption since it takes the interactants out of context in its coding.

Three categories of status differential were used in this study: positive (the interruptor had higher status than the interruptee), neutral (the interruptor and interruptee had equal status), and negative (the interruptee had higher status than the interruptor). When coding for status differential, gender was not the basis of status appraisal. Thus, on encountering an interruption, the coder took into account the interactants' social-economic information, level of superiority, familial relationship, etc. in order to figure out the status differential between them. At the same time, the specific context of the interruption also was considered in the coding decision. For example, normally a conversation between a business manager and his employee would have a status differential in favor of the boss. However, if the boss and the employee went on a business trip together, had an accident, and wound up in the woods struggling to survive, the status differential could be different – especially when the employee turned out to be a person conversant with survival skills.

Conversation topic. This study differentiated two categories of conversation topics in television fiction: work and social-interpersonal. Work topics included those predominantly relevant to the speaker fulfilling his or her occupational responsibilities. Business talk, discussion of homework, doctor-patient interaction, etc. would be examples of conversations with work topics. Such conversations would typically occur in workplaces. But they could also emerge in other conversation settings, such as in a restaurant where potential business partners sought to cut a deal over dinner. In this type of situation, the conversation would still be coded as work-related because the topic per se was clearly work, although the setting was not a workplace. Social-interpersonal topics, on the other hand, were primarily about socializing, sharing non-work-related information, fostering and developing interpersonal relationships. A chat about sports between friends, a talk between parents and children on the forthcoming vacation, a conversation about the weather between co-workers during a coffee break, etc., would represent instances of social-interpersonal conversations. This category included all incidences of verbal communication that were not included in the first category. Social-interpersonal conversations often would happen between family members, friends, and acquaintances. But they could also take place between strangers, such as friendly conversations with strangers in a bar, and party conversations.

Type of interruption. This study made the distinction between disruptive interruptions and cooperative interruptions. Disruptive interruptions included those that served to disagree (e.g., "I don't think so," in response to an opinion), disconfirm (e.g., "That is not true," in response to a statement of fact), reject (e.g., "That is a bad idea," in response to a suggestion), or change the topic (e.g., "Where is my notebook?" an irrelevant topic started in the middle of whatever the current speaker is saying). Cooperative interruptions, on the other hand, served to show agreement ("You are right, this shirt is a little small," in response to "My shirt feels so tight"), understanding ("I definitely see what you mean," in response to an opinion), interest in the topic ("That's interesting! Did you also…"), or simply ask for clarification ("Did you just say a thousand?").

Data collection

Coding was done in two stages in April and May 2001. In the first stage two coders were involved, an independent coder and the first author. The two coders coded about 10% of the sampled television shows and identified 49 cases of interruptions. This represented more than 10% of the total number of interruptions existing in the sample (435). Their coding of the 49 interruptions was then subjected to a Krippendorff's Alpha test. High intercoder reliability scores were obtained on all variables (Network 1.0, Genre 1.0, Gender of interruptor 1.0, Age of interruptor .95, Gender of interruptee 1.0, Age of Interruptee .96, Status .97, Topic, .96, Type of interruption .92).

Given the satisfactory level of intercoder reliability, the first author went on to the second stage of coding and alone coded all the remaining programs. The author's coding of the cases used for intercoder reliability test was included in the final dataset.

Results

Altogether 55 television shows were coded in this study; 27 of them were dramas, 28 were sitcoms. A total of 435 interruptions were identified. In 245 (56%) cases, the interrupters were males; in 189 (43%) cases, the interrupters were females; in one case, the interrupter's gender was unknown. Twenty-one (5%) of the interrupters were 18 or younger in age; 144 (33%) were young adults (19 – 35); 229 (54%) were adults (36 – 55); 39 (9%) were seniors (56 or older); two were unknown or undetermined.

Among the characters interrupted, there were 273 (63%) males, 161 (37%) females, one unknown or undetermined in gender. Twenty-four (6%) interruptees were minors (18 or younger); 183 (42%) were young adults (19 – 35); 209 (48%) were adults; 17 (4%) were seniors (56 or older); two were unknown or undetermined in age.

In 145 (33%) interruptions, the interrupters were of higher status than the interruptees. In 241 (55%) interruptions, the interrupters and the interruptees were of equal status. In 49 (11%) interruptions, the interrupters had lower status than the interruptees. Two hundred and one (46%) interruptions happened in work-related conversations, 233 (54%) in social-interpersonal conversations. In one case, the topic of the conversation was unknown. Of the 435 interruptions, 329 (76%) were disruptive, 106 (24%) were cooperative.

H1: In television fiction, male characters are more likely to use disruptive interruptions than female characters while female characters are more likely to use cooperative interruptions than male characters.

Cross tabulation between gender of interruptor and type of interruption showed that 81% of the interruptions initiated by men and 68% of the interruptions initiated by women were disruptive. Correspondingly, 19% of the interruptions conducted by men and 32% of the interruptions by women were cooperative. The difference between men and women was significant ($X^2=9.72$, df=1, $p<.002$) (see Table 1). H1 was supported.

(Table 1 about here)

R1: What is the relationship between the sex of the interruptee and the type of the interruption in television fiction conversations?

Male and female characters did not differ in the types of interruptions they received ($X^2=.025$, df=1, $p<.88$). About three quarters of the interruptions directed at men (76%) and women (75%) were disruptive in nature. The remaining one fourth were cooperative (see Table 2). There is no significant relationship between the sex of the interruptees and the type of interruptions they received.

(Table 2 about here)

H2: Status influences the distribution of interruptions in prime time television fiction such that higher status characters are more likely to interrupt disruptively and lower status characters are more likely to interrupt cooperatively.

Chi-square analysis found a significant relationship between status and type of interruption ($X^2=9.19$, df=2, $p<.01$) (see Table 3). However, the significant relationship was mainly manifested in the differences between cases with neutral status differentials and those with either positive or negative differentials. Most (83%) of the interruptions with positive status differentials (the interrupters had higher status than the interruptees) turned out to be disruptive, followed closely by interruptions with negative status differentials (the interrupters had lower status than the interruptees) (80%). In comparison, only 70% of the interruptions with neutral status differentials (interrupters and interruptees were of equal status) came out disruptive. The reverse was true for cooperative interruptions. Interruptions with equal status structures had the highest percentage of cooperative cases (30%). Interruptions with negative status differentials (20%) and interruptions with positive status differentials (17%) were much less likely to be cooperative in nature. This pattern of results did not provide unequivocal support for H2. While the differences between interruptions with positive differentials and interruptions with neutral differentials are in line with the hypothesis, the differences between interruptions with neutral differentials and interruptions with negative differentials runs counter to the hypothesized relationship.

(Table 3 about here)

R2: Controlling for status, does gender (still) make any difference in the distributions of disruptive and cooperative interruptions in prime time television fiction?

To answer this question, a three-way cross tabulation was conducted and the results are summarized in Table 4.

(Table 4 about here)

The significant relationship between gender and type of interruption (H1) only held in the positive status differential category (X^2=7.57, df=1, p<.013). The influence of gender of interruptor on type of interruption became insignificant when status structure was neutral (X^2=1.64, df=1, p<.21) or negative (X^2=.86, df=1, p<.48).

H3: In prime time television fiction, disruptive interruptions are more likely to happen in work-related conversations than in social-interpersonal conversations; cooperative interruptions are more likely to occur in social-interpersonal conversations than in work-related conversations.

Cross tabulation between topic of conversation and type of interruption revealed significant differences in the distribution of disruptive and cooperative interruptions across different conversation topics (X^2=9.97, df=1, p<.002) (See Table 5). In work-related conversations, 83% of the interruptions were disruptive; in social-interpersonal conversations, 70% of the interruptions were disruptive. On the other hand, 30% of the interruptions in social-interpersonal conversations were cooperative, while in work-related conversations, only 17% of the interruptions were cooperative. H3 was supported.

(Table 5 about here)

R3: In prime time television fiction, does gender influence the distributions of disruptive and cooperative interruptions differently as conversation topic varies?

R3 was meant to examine whether different patterns of gender differences emerge in conversations with different topics. As is shown in Table 6, the pattern of gender differences observed earlier (H1) remained significant when the topic of conversation is work-related (X^2=8.69, df=1, p<.004). It became insignificant in social-interpersonal conversations (X^2=1.01, df=1, p<.20).

(Table 6 about here)

Summary

The above results showed that gender differences exist in the initiation, but not in the reception, of disruptive and cooperative interruptions. Overall, male characters are more likely to interrupt disruptively and less likely to interrupt cooperatively than female characters. Status differential and conversation topic are also associated with interruption type. Compared with cooperative interruptions, disruptive interruptions are more likely to occur in interactions with either positive or negative status differentials and less likely to occur in interactions with neutral status differentials. Disruptive interruptions are also more likely to occur in work-related conversations and less likely to occur in social-interpersonal conversations than cooperative interruptions. Moreover, the effects of status and topic tend to moderate the effects of gender, such that significant gender differences only persist when the status structure of the situation is positive and when the topic of the conversation is about work.

Discussion

The most important finding in this study is apparently the differential use of disruptive and cooperative interruptions by male and female television characters. This finding clearly suggests that the distinction between disruptive and cooperative interruptions is necessary and important. This distinction does justice to the subtlety of interruptions that are largely overlooked in the dominance tradition of interruption studies. Interruptions are not only used to disagree, to reject, or simply to disrupt the current speakership, they can also be employed to show agreement, to indicate interest, to enhance involvement, and to help further develop the ongoing conversation. In fictional television dialogue, the typological diversity of interruptions is also evident. Among all the interruptions identified in this study, about one-fourth were cooperative in nature. This proportion alone speaks loudly to the possibility of misleading conclusions if all interruptions were indiscriminately treated as manifestations of power and conflict.

Among the three hypotheses, H2 (the relationship between status and type of interruption) is the only one that did not receive full support from the data. Curiously, we found that interruptions with negative status differentials are more likely to be disruptive and less likely to be cooperative than interruptions with neutral status differentials. One possible explanation for this phenomenon may be that in the television world, people at the bottom of the social hierarchy have stronger sense of defiance than people who are in the middle. They can afford to interrupt disruptively more often because they have less to lose. People of middle-level status, on the other hand, tend to be more cautious in conducting disruptive interruptions because more is at stake for them if other people, particularly people of higher status, are offended by their disruptive interactional strategies.

Besides gender and status, topic of conversation also plays a role in determining the use of disruptive and cooperative interruptions in fictional television. Overall, more disruptive interruptions and less cooperative interruptions emerge in work-related conversations than in social-interpersonal conversations. The average prime time fiction character also tends to receive more cooperative interruptions in social-interpersonal conversations than in work-related conversations. Such differences are largely in line with the findings of some earlier studies (Dindia, 1987; Roger & Nesshoever, 1987; also see James & Clarke, 1993). It is likely that television producers, intuitively aware of the fact that interruptions can be of different natures that are appropriate to the topic of the conversation, have incorporated this awareness into their artistic creation of television dialogue.

This research also produced some interesting results with respect to the moderating effects of status and topic on the observed gender differences. Two observations can be made from these findings. First, gender differences uncovered in this study are not the overarching force in deciding how and what kind of interruptions are used in the television world. The effect of gender may become indistinct when status differential is neutral or negative, or when topic of conversation is social-interpersonal. Second, and on the other hand, gender differences persist even when controlling for the effect of status or topic. As previously reviewed, many researchers, frustrated by the inconsistency of findings in traditional interruption research, have suspected that gender differences may not exist at all in interruptions (cf. Aries, 1996; James &

Clarke, 1993). Findings from this study offered no support for this suspicion. In prime time television fiction, gender appears to play an important role in determining how a character interrupts, particularly when the character's status is high or when the topic of conversations is work.

The findings of this study have both theoretical and practical implications. First, as discussed above, the typological approach has proven to be a rewarding perspective in the study of interruptions. The gender differences uncovered in this study would be completely obscured if the distinction between disruptive and cooperative interruptions was not made. Furthermore, this typological approach has enabled this study to look into the effects of status and topic, and their relationship to gender in greater depth. All these would not be possible in a study that treats interruption as an invariant expression of dominance and power.

Secondly, this study has further demonstrated that mediated language materials are rich sources of information about interpersonal communication. Earlier research has found that basic conversational mechanisms, in particular the turn-taking system, are also at work in interactions on television (e.g., Heritage, Clayman, & Zimmerman, 1988). Proceeding from these observations, this study specifically addressed the way characters interrupt in prime time television fiction. The complexity and intricacy of the findings here are at least comparable to those discovered in real life interactions. TV characters not only interrupt for a variety of purposes, they also adjust their interrupting behaviors according to the status of their conversational partners as well as the subject matter of the conversation, much like the way real people converse in the real world. In this sense, such findings have rendered ample support to Lakoff and Tannen's belief that artificial dialogue represents "an internalized model or schema for the production of conversation" (Tannen, 1994, p. 139).

From a different angle, this study has also demonstrated how interpersonal communication theories and approaches can throw light on the study of mass communication content. The findings of this study provide new information on the differential representations of men and women on television. How to evaluate this information, of course, is dependent on one's theoretical and political viewpoints. Some might find such gender differences a mere reflection of the broader social reality. Nothing really need to be done or can be done about them on the part of television. Others might consider these differences a means of catering to the audience's taste. After all, commercial television provides what the audience wants to see and likes to hear. For mass communications scholars concerned with stereotypical portrayals of women in the media, however, the observed gender differences could be viewed as additional evidence for the existence of stereotypes in the television world. As previously discussed, in this society women are often perceived as weak, subordinate, polite, and tentative in expressing opinions, while men are generally believed to be dominating, aggressive, and straight to the point in their speech. The findings of this study may lead one to suspect that such stereotypes also exist in the minds of television scriptwriters and producers. They may have relied on such stereotypes in the creation of television scripts. Consciously or unconsciously, their stereotypical views of women may have influenced the way they craft male and female characters' TV dialogue. As a result, the television world appears very "realistic": women still need to be more polite than men; they are still supposed to be more supportive than men; they should always agree more and disagree less than men; etc. From this perspective, it seems unlikely that the way women are linguistically portrayed in today's fictional television will change the stereotypical perceptions of women in society at large. On the contrary, it may serve to reinforce these perceptions and help reinforce the way women verbally conduct themselves in the real world.

Along this line of reasoning, the findings of the present research may also have some practical implications for television production. Many currently running shows have allegedly been trying to empower women by featuring female heroes, putting women outside the home sphere, and locating them in powerful positions in workplaces. The findings of this study, however, suggest that changing the speech styles of women, including the ways in which they use interruptions, may be another venue to achieve that purpose.

Limitations of the present study

A major limitation of the present study is its small sample. Although 55 shows were coded in this study, the number of interruptions observed was not large enough to allow for thorough investigations of the interaction between the major variables. The data could only accommodate three-way cross-tabulations. Four- or higher-way cross tabulations would leave many cells with expected values less than 5, thus rendering the results of Chi-square analyses invalid. As a result, this study only looked at two-way interactions between gender, status, and topic; it would be more desirable if each of these variables could be examined with the other two controlled at the same time.

Another limitation of this study is that it only looked at television dialogue from a narrow range of programmings. It did not look at daytime shows, nor did it look at shows from anywhere other than the four commercial networks. Although this sampling method was necessary for this study to remain manageable and focused, it also limited the scope of generalization of its findings.

Suggestions for future research

As discussed earlier, results from this study have strongly suggested that the typological approach is a promising one in interruption research. While many researchers have already recognized that interruptions can be categorized in a variety of ways (cf. James & Clarke, 1993), empirical studies discriminating types of interruptions are still few and far between. Apparently, more empirical efforts are needed to keep up with the theoretical development in this area.

Future research can also tap into the distribution of different types of interruptions in nonfiction programming. A few research studies have investigated the use of interruptions in political debates and talk show interviews (Brinson & Winn, 1997; Bull & Mayer, 1988). It would be interesting to see how interruptions with different natures are allocated between interviewers and interviewees, between debate participants, between sports commentators, between co-hosts of news broadcasts, etc.

Experimentation can also be designed to test the differential effects of disruptive and cooperative interruptions on television viewers' perceptions. Subjects can be presented with excerpts of different types of interruptions and then asked to evaluate both the interruptor and the interruptee, and the relationship between the two. Such evaluations may then be related to the viewers' general social attitudes, particularly gender-related beliefs. Results from this kind of research may provide strong justification for the study of interruption types, including those observed in television.

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Table 1. Cross tabulation between gender of interruptor and type of interruption

		Type of Interruption	
		Disruptive	**Cooperative**
Gender of Interruptor	**Male**	199 (81%)	46 (19%)
	Female	129 (68%)	60 (32%)

X^2=9.72, df=1, p<.002

Table 2. Cross tabulation between gender of interruptee and type of interruption

		Type of Interruption	
		Disruptive	**Cooperative**
Gender of Interruptee	**Male**	207 (76%)	66 (24%)
	Female	121 (75%)	40 (25%)

X^2=.025, df=1, p<.88

Table 3. Cross tabulation between status and type of interruption

		Type of Interruption	
		Disruptive	**Cooperative**
Status	**Positive**	121 (83%)	24 (17%)
	Neutral	169 (70%)	72 (30%)
	Negative	39 (80%)	10 (20%)

X^2=9.19, df=2, p<.01

Table 4. Cross tabulation between gender of interruptor and type of interruption controlling for status

			Type of Interruption	
Status			**Disruptive**	**Cooperative**
Positive	**Gender of Interruptor**	**Male**	89 (89%)	11 (11%)
		Female	31 (70.5%)	13 (29.5%)
	Total		120 (83.4%)	24 (16.6%)
Neutral	**Gender of Interruptor**	**Male**	88 (73.9%)	31 (26.1%)
		Female	81 (66.4%)	41 (33.6%)
	Total		169 (70.1%)	72 (29.9%)
Negative	**Gender of Interruptor**	**Male**	22 (84.6%)	4 (15.4%)
		Female	17 (73.9%)	6 (26.1%)
	Total		39 (79.6%)	10 (20.4%)

When status is positive, X^2=7.57, df=1, p<.013
When status is neutral, X^2=1.64, df=1, p<.21
When status is negative, X^2=.86, df=1, p<.48 (one cell with expected value less than 5)

Table 5. Cross tabulation between topic and type of interruption

		Type of Interruption	
		Disruptive	**Cooperative**
Topic	**Work**	166 (83%)	35 (17%)
	Social-Interpersonal	162 (70%)	71 (30%)

$X^2=9.97$, df=1, $p<.002$

Table 6. Cross tabulation between gender and type of interruption controlling for topic of conversation

			Type of Interruption	
Topic			**Disruptive**	**Cooperative**
Work	**Gender**	**Male**	118 (88%)	16 (12%)
		Female	47 (71%)	19 (29%)
	Total		165 (83%)	35 (17%)
Social-Interpersonal	**Gender**	**Male**	80 (73%)	30 (27%)
		Female	82 (67%)	41 (33%)
	Total		162 (70%)	71 (31%)

When topic is work, $X^2=8.69$, df=1, $p<.004$

When topic is social-interpersonal, $X^2=1.01$, df=1, $p<.20$

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AEJMC 2002 Convention Submission

PRIVACY IN A STATE OF WAR: THE EFFECT OF THE EVENTS OF SEPTEMBER 11 ON MEDIA PRIVACY FRAMING

BY

J. Richard Stevens
1500 E. Riverside #326
Austin, TX 78741

(512) 916-8963

rick.stevens@mail.utexas.edu

Graduate student,
The University of Texas
AUSTIN, TEXAS

Abstract

Privacy can be expressed in the mass media in different ways. An analysis of the use of privacy frames in the *New York Times* in the 16-week period surrounding the events of September 11 attempted to measure their impact on the framing of privacy. The study found a dramatic increase in the number of frames advocating increased access to individuals following Sept. 11,while the number of frames advocating less access remained relatively unchanged.

Introduction

The rights and restrictions of the American notion of privacy have become a hotly contested source of controversy in recent years. Technological innovations, social developments and a growing awareness of differences within the American culture have all contributed to threads of inquiry and debate into what norms of privacy should be supported and what norms should be altered.

Upon closer examination, the term "privacy" can be used to mean different things in different contexts, and at times, different things to people within the same context. People disagree not only about how much privacy our citizenry should have, but also what activities and behaviors privacy encompasses.

Understanding what privacy is and what role it plays in our society is important to both scholars and journalists. A citizen's view of privacy represents a fundamental landmark from which he or she frames the relationship of the individual to American society. How Americans view privacy is particularly important to establish when analyzing the policy and social developments within the country after the events of September 11. Documented changes in the American notion of privacy provide a key context for the actions and decisions of the political social actors responding to the threat of terrorism in the United States. By understanding how privacy discourse evolves, researchers can gain insight into what attributes of both privacy and the society in which it has been created.

A Case Study

On September 11, 2001, two commercial airliners were deliberately crashed into the twin towers of the World Trade Center and a third into the Pentagon in Washington, D.C. These attacks represented a major act of foreign terrorism on U.S. soil and caused the American government to lead the country into a state of war.

These attacks also resulted in a significant change in the political and social environment of the country. During the period immediately following the attacks, the media reflected a distinct shift in social discourse. Americans, many of whom were nervous about their physical safety for the first time, appeared to be less concerned with their rights as autonomous individuals as they were with reestablishing the nation's sense of security. This shift in the population's attitudes has implications for the debates surrounding the meaning of privacy.

During the period of attack and the war in Afghanistan that followed, the mass media adapted to the changing needs of the citizenry to provide expansive coverage of the day's events. For a time, the television networks and newspapers put aside commercial entertainment and feature programming, and the news and information branches of the media increased their coverage cycles to provide a higher volume of useful coverage.[1]

During this period, there were also reported shifts in the language, posture and tone of the news media. Normally bitter rivals, the broadcast news divisions began to cooperate with one another for the good of the country, even to the point of sharing video footage.[2] Constant news coverage at the expense of advertising messages put a dent in newspaper revenues and reportedly cost the television networks as much as hundreds of millions of dollars each day.[3] Not willing to be viewed as unpatriotic, the media appeared to become less critical of the American government and focused instead on informing the citizenry and helping it cope with the implications of the attacks.[4]

Purpose

The purpose of this paper is to identify the distinctive characteristics within the competing viewpoints of privacy and to attempt to classify individual arguments into general frames of discourse. This effort will make it easier for researchers to contextualize a particular argument or viewpoint in relationship to the dominant discourses of privacy and thus make it easier for researchers to understand on what functional premises the argument is based, what objects it seeks to restrict or expand and what justifications for such action are provided.

Of particular interest is whether the use of particular privacy frames changed as a result of the events of September 11. Uncovering the differences in privacy discourse from before and after those dramatic events may illuminate the social meaning of privacy and how it is articulated in public discourse.

If the citizenry of this country is guaranteed a right of privacy (as many legal and philosophical scholars have argued) it is important to find new ways to articulate what privacy is and to what extent its conceptual definition is permeable. Without clearly established boundaries, the vagueness found in contemporary privacy discourse causes confusion among the citizens and thus makes public discussions about privacy extremely difficult to reduce to the practical level needed to form a coherent body of social policy.

Background

A Brief History of Legal Privacy

One of the reasons privacy is so hard to define is that it actually has two distinct histories. Unlike other legal and philosophical concepts in the American system, privacy was completely ignored by the great liberal thinkers (Kant, Locke, Mill and Rousseau) whose philosophies influenced the formation of our society.[5]

Furthermore, there exists no clause in the United States Constitution that contains the word "privacy." To understand the current legal definition of privacy it is helpful to briefly trace the introduction and development of privacy in the legal sphere.

The construct of privacy as a legal right originated in an 1890 *Harvard Law Review* article titled, "The Right to Privacy."[6] This article, written by Samuel D. Warren and Louis D. Brandeis, was reportedly prompted by Warren's outrage at the coverage of a family wedding in the gossip columns of the local metropolitan paper (though this account has since been disputed).[7] Warren and Brandeis cite the development of instant flash photography and numerous other mechanical devices as threats to personal space that require a legal restriction for their use. This argument led to their definition of the right to privacy simply as the "right to be left alone,"[8] a reference to Judge Thomas Cooley's statement two years earlier.[9] While elegant in its simplicity, this phrase was of little help in the legal arena, as determining to what extent someone should be left alone has varied almost as often as the circumstances under which the right is challenged by a competing right of access.

Because this right is not constitutionally supported, the right of privacy was first defined under tort law, and the cases that it is applied to are exclusively cases of defending the privacy of one person or group against another person or group of persons. Tort law can vary from state to state and only advances as individual cases are brought before the U.S. Supreme Court for judgment.

Though the privacy tort was effectively created in 1890, it was not until the 1960s that it became useful for journalists, when legal scholar William Prosser argued that the previous privacy cases could be categorized into four distinct torts: intrusion, private facts, false light and appropriation.[10] These distinctions made it easier for a citizen to bring civil suit against another, and made the legal discourse surrounding privacy easier to navigate.

However, the Supreme Court's 1965 verdict in *Griswold v. Connecticut* signaled the emergence of a new species of privacy, one intertwined more with personal autonomy than the restriction of access. Though the court did express concern about the level of access needed for a state to enforce the state statute banning the use of contraception, the statute itself was deemed as "invalid as an unconstitutional invasion of the right of privacy of married persons."[11] This expression of privacy was applied in following cases to expand the protection of other personal autonomy issues including interracial marriage[12], abortion,[13] the sale and distribution of condoms[14] and the sanctity of the home.[15] Unlike the tort-derived strain of privacy, the Supreme Court decided this emerging version of privacy to be protected by a number of the Constitutional Amendments, making this version of privacy a "penumbra right."

In 1977, the Supreme Court unanimously declared in *Whalen v. Roe* that it recognizes two distinct types of privacy: an "individual interest in avoiding disclosure of personal matters" and an "interest in independence in making certain kinds of important decisions."

Although several statutes have been established that concern the disclosure of personal information (the *Video Privacy Act*, the *Fair Credit Reporting Act*, the *Telephone Consumer Protection Act* and the *Driver's Privacy Protection Act*, to name a few), the laws have been inconsistent and incomplete. As lawyers Ellen Alderman and Caroline Kennedy sum up the situation, "The federal statutory scheme most resembles a jigsaw puzzle in which the pieces do not fit."[16]

Two Types of Privacy

If the legal discourse on privacy is a defective jigsaw puzzle, the political discourse concerning privacy approaches simple contradiction.

There are definite differences in the way people talk about the philosophical and political aspects of privacy. Voices from the liberal end of the political spectrum tend to favor regulating the economic and social elements of society, defining lifestyle decisions as private matters. Voices from the conservative end of the spectrum seem to prefer to avoid regulating the private aspects of the marketplace, but seem to have no problem with regulating lifestyle decisions.

Although privacy seems to be desired by the majority of citizenry from most political perspectives, the definition of what the value of privacy is, and how it should be defended are under constant dispute. Like the legal debates concerning privacy, philosophical and political discussions of privacy can be categorized into two major discourses of privacy: privacy as the right to restrict access to one's self and privacy as the right to make certain life decisions about one's life.

These two approaches to the concept of privacy (hereafter called "access-based privacy" and "autonomy-based privacy") are distinctly different in their expectations of the social function of privacy, the object affected by privacy and the justification for privacy. The function of access-based privacy is to restrict the degree of access to physical persons or information about them for the purpose of encouraging social consequences consistent with the ideals of the American system. The function of control-based privacy is to increase control of a person's actions or decisions because to do so respects his or her person (see Figure 1).

Figure 1. Factorial differences between access-based privacy and autonomy-based privacy

	Access-based privacy	**Autonomy-based privacy**
Function	To restrict access	To increase control
Object	Person or information	Actions or decisions
Justification	Consequential	Deontological

It is important to note that these paradigms are generalized tendencies and scholars at times vary in the precise articulation of their individual arguments. In fact, scholars can hold positions in each category, but these positions tend to be reserved for specific sets of circumstances. Furthermore, a few scholars support both versions of privacy by attempting to incorporate components of each into an all-encompassing definition of privacy.

Within each paradigm, any given argument can have a claim for an increase of privacy ("we need to restrict access" or "we need to increase control") or a claim for a decrease in privacy ("we should increase access" or "we should decrease control"). Though seemingly diametrically opposed, these concepts simply pursue different goals with different methods.

Theoretical Framework

Framing

The concept of "framing" refers to the manner by which events and issues are organized and presented in order to convey a particular meaning. Framing literature is a shift away from the study of objectivity and bias in news media and towards the study of ideology in the news.[17] Several definitions of framing have been presented, explicating the term in slightly different ways (see Reese, Gandy and Grant[18] for an exhaustive collection of the many different uses of the concept of framing).

Gamson and Modigliani define a frame as a "central organizing idea" which is used to make "sense of relevant events, suggesting what is at issue."[19] Entman expands on the definition somewhat, stating:

> To frame is to select some aspects of a perceived reality and make them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation and/or treatment recommendation.[20]

Reese introduces additional elements to the definition, stating: "Frames are organizing principles that are socially shared and persistent over time, that work symbolically to meaningfully structure the social world."[21] It is the concept that frames are persistent over time that led to the inquiry of this paper. If frames are persistent over time, one would expect that their usage would be consistent in terms of meaning or use regardless of the environment of the events to which they are applied. One way to test the strength of the persistence of frames is to measure the changes in the framing of a particular discourse before during and after a significant change in the media environment.

This study seeks to examine the following questions:

1. What impact did the events of September 11 have on the claims that we need to increase the protection of American privacy?
2. What impact did the events of September 11 have on the claims that we need to increase the level of surveillance available to authorities in American society?
3. What impact did the events of September 11 have on the claims that we need to increase the level of autonomy guaranteed to the American citizenry?
4. What impact did the events of September 11 have on the claims that we need to increase the level of social influence and legal accountability placed upon the American citizenry?

Methodology

In order to isolate the effect the environmental change September 11th had on the American conception of privacy, news stories were collected from the 8 weeks proceeding and following the event for comparative purposes. The sample selected included stories from the *New York Times* between the dates of July 18 and November 6 of 2001. This period yields exactly 8 weeks of coverage before September 11 and 8 weeks of coverage following September 11 (because the *New York Times'* publishing schedule leads it to report the day's event the following day, September 11 itself is included as the last day in the preceding selection).

In many media content studies the *New York Times* has been used as the nation's "newspaper of record" due to its prominence and its influence on other media. For this study, this selection seemed natural for a different reason, the fact that the events in question occurred in the city of New York, and the national news coverage thus centered on the New York area for the period under scrutiny. Given the diversity of issues and events covered in that period, it follows that the *New York Times* would be in the best position to cover the story of the event in question, due both to the localized resources at its disposal and to its role as the local news voice for the community in which the event occurred.

In all, 338 stories containing issues relating to privacy were identified and downloaded from Lexis-Nexis. The stories were selected using a keyword search for the terms "privacy" and "access" for the dates under scrutiny. The search results contained a diverse use of the concept of privacy. Stories included news items, editorials and feature-length articles.

Lexis-Nexis archives materials from many different news and legal sources. When an article is entered into the Nexis database, it is cross-references by authors, publications and key terms. The key terms are assigned by the database based upon the occurrence of particular words and phrases within a document, but also by the general themes the article covers. For this reason, many of the articles returned in a search on "privacy" did not even contain the word "privacy" within either in the headline or the body of the story.

The researcher sifted the collection for appropriateness and several types of articles were removed, including letters to the editors, news abstracts and other unrelated texts. Next, the collection was sifted for content, and stories that had content outside the scope of the study (for example, some stories had been collected because "private" was included to refer to a location of a house or a junior officer in the U.S. military). In all, 180 stories were disqualified from the collection, leaving a population of 158 stories. This population was divided into two groups: 74 stories published on or before September 11 and 84 stories published after September 11.

Content analysis

Since the purpose of this study was to tease out the deeper meaning of privacy issues, the study employed a mixture of quantitative and qualitative textual analysis techniques. As such, the study was not only concerned with revealing the number of privacy frames in a given story, but was also concerned with finding examples of particular privacy frames whose meaning may provide richer insight into the conceptual definitions and attributes of media privacy discourse than the mere number of uses of a particular word or phrase.

Toward this end, four distinct privacy frames were derived from the two legal approaches to privacy. These frames were used to categorize examples of individual statements about privacy occurring in the *New York Times* during the period under observation. In addition, the coding unit of analysis was the frame itself (and not the story), since many stories had multiple privacy frames within the same story.

Once the frames were identified, coders were recruited and trained to sort claims within the selected newspaper articles by the appropriate frame used. Overall inter-coder reliability for all four frames was 84%. Breaking down the reliability scores into types of frames, the agreement on access-based privacy claims was 94.1%, while the agreement on autonomy-based privacy claims was only 62.5%. This suggests that coders had a more difficult time agreeing on how o categorize autonomy claims. Since there were so few instances of either autonomy-based privacy frame, those results were ignored for the analysis and discussion.

Privacy Frames

The main purpose of this endeavor was to determine which privacy frames (access-based or autonomy-based) were used to describe the privacy issues raised in the newspaper. Furthermore, the stories were coded to determine whether or not the frames were advocating more access or autonomy or less access or autonomy.

Therefore, the frames in each story were coded A+ (claim advocating an increase in access), A- (claim advocating a decrease in access), AU+ (claim advocating an increase in autonomy), and AU- (claim advocating a decrease in autonomy).

The Increase in Access Frame. In general, the *increase in access* privacy frame is a statement that advocates an increase in access to a person, institution or group of people or institutions. These statements can be made by a variety of actors. Typical terms and phrases include claims advocating an increase in surveillance or a desire for more access to a type of activity. Examples of a claim for increased access would be a statement that an organization is using the Internet to "make records like court proceedings and property rolls accessible to a wide group of citizens,"[22] or a security firm is declaring a "need for biometric systems to catch known terrorists and wanted criminals."[23]

The Decrease in Access Frame. In general, the *decrease in access* privacy frame is a statement that advocates a decrease in access to a person, institution or group of people or institutions. Typical terms and phrases include claims advocating a decrease in surveillance or a desire to protect behavior from public scrutiny. Examples of a *decrease in access* frame would be a statement that the use of surveillance cameras is 'an invasion of privacy,"[24] or Microsoft's statements in favor of the adoption of the Platform for Privacy Preferences to limit the access to a Web user's cookies.[25]

The Increase in Autonomy Frame. The *increase in autonomy* privacy frame is a statement that advocates an increase in autonomy or control a person has over his or her life. Typical terms and phrases include claims advocating an increase in ability or convenience. An example of an *increase in autonomy* privacy frame would be a statement acknowledging the benefits (in terms of convenience) that a user gains by using cookies on the Web.[26]

The Decrease in Autonomy Frame. The *decrease in autonomy* privacy frame is a statement that advocates a decrease in autonomy or control a person has over his or her life. Typical terms and phrases include claims advocating a decrease in ability or convenience (most often found in discourse surrounding disputes over the legalization of abortion). An example of a *decrease in autonomy* privacy frame would be the revelation that the refusal to allow Microsoft to view sharing one's information while using Microsoft XP will cause the operating system to shut down after a predetermined amount of time, denying users access to their computers or the Internet.[27]

Results

The 158 stories coded yielded 223 *increase in access* privacy claims, 214 *decrease in access* privacy claims, 41 *increase in autonomy* privacy claims and 11 *decrease in autonomy* privacy claims (See figure 2). The 74 news stories dated on or prior to September 11 yielded 65 *increase in access* privacy claims, 102 *decrease in access* privacy claims, 18 *increase in autonomy* privacy claims and 7 *decrease in autonomy* privacy claims. The 84 news stories dated after September 11 included 158 *increase in access* privacy claims, 112 *decrease in access* privacy claims, 23 *increase in autonomy* privacy claims and 4 *decrease in autonomy* privacy claims (see Figure 3).

Figure 2. Total number of privacy claims in collected stories

Privacy Frame	Number of Occurrences
Increase in access-based privacy	223
Decrease in access-based privacy	214
Increase in autonomy-based privacy	41
Decrease in autonomy-based privacy	11

In order to compare the slightly different sample sizes, the average number of frames per story was collected for each time period. The 74 news stories dated on or prior to September 11 yielded an average of .88 *increase in access* privacy claims, 1.38 *decrease in access* privacy claims, .24 *increase in autonomy* privacy claims and .09 *decrease in autonomy* privacy claims per story. The 84 news stories dated after September 11 included an average of 1.88 *increase in access* privacy claims, 1.33 *decrease in access* privacy claims, .27 *increase in autonomy* privacy claims and .05 *decrease in autonomy* privacy claims per story (see Figure 3).

Figure 3. Number of frames and averages for comparison periods

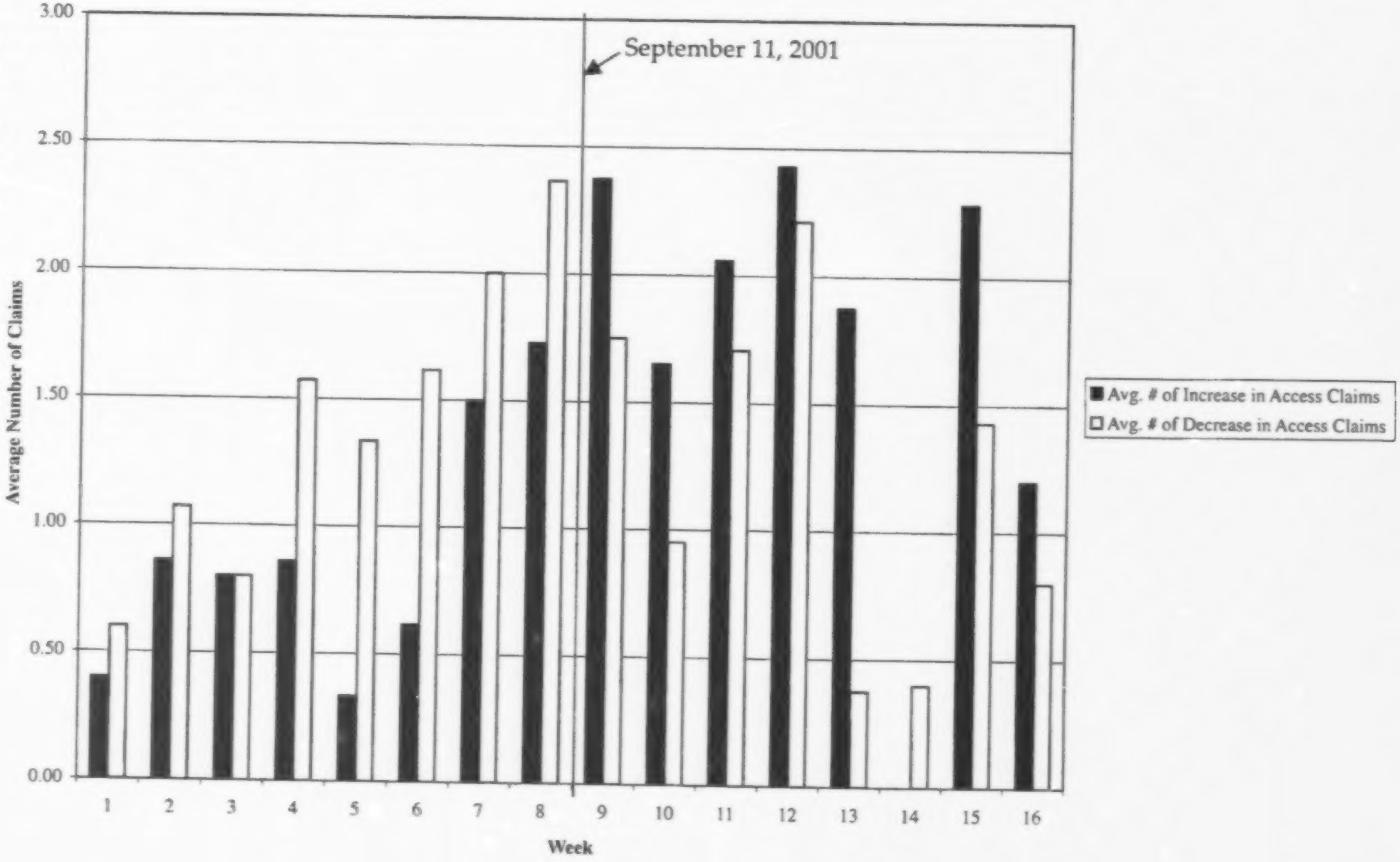
	A+	A-	AU+	AU-	Avg. A+	Avg. A-	Avg. AU+	Avg. AU-
Pre 9/11	65	102	18	7	.88	1.38	.24	.09
Post 9/11	158	112	23	4	1.88	1.33	.27	.05

Each time period was then subdivided into 8 weeks (see Figure 4). Once the average number of claims for each time period was computed, the averages for the number of increase in access privacy claims and decrease in access privacy claims were compared by week (see Chart 1).

Figure 4. Division of weeks in collected stories

Week	Dates	Week	Dates
1	July 18-July 24	9	Sept. 12-Sept. 18
2	July 25-July 31	10	Sept. 19-25
3	Aug. 1-Aug. 7	11	Sept. 26-Oct. 2
4	Aug. 8 – Aug. 14	12	Oct. 3-Oct. 9
5	Aug. 15-Aug. 21	13	Oct. 10-Oct. 16
6	Aug. 22-Aug. 28	14	Oct. 17-Oct. 23
7	Aug. 29-Sept. 4	15	Oct. 24-Oct. 30
8	Sept. 5-Sept.11	16	Oct. 31-Nov. 6

Chart 1: Average Access-Based Privacy Claims By Week



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Analysis/Discussion

The results of the data imply several important changes in the type and amount of privacy discourse in the *New York Times* for the period under observation.

What impact did the events of September 11 have on the claims that we need to increase the protection of American privacy?

Prior to September 12, the average number of claims advocating a reduction in the amount of access to people almost doubled the number of claims advocating an increase in the amount of access to people. Looking at the weekly results, the number of claims advocating a decrease in access outweighed the number of claims advocating and increase in access in every week except the third week (August 1-7), where the number of claims per story were equal. However, from September 12 onward, the number of claims in favor of an increase in access outnumbered the claims in favor of a decrease in access in every week except the 14th (a rationale for this week's coverage is offered below).

This dramatic swing in the instances of access-based privacy frames has implications for how privacy was presented in the *New York Times* during each period. Prior to September 12, the dominant usage of the *decrease in access* frame indicates that the paper quoted more sources in favor of the restriction of governmental control over the individual in society. From September 12 onward, the dominant usage of the *increase in access* frame indicates that the paper quoted more sources in favor of the broadening of governmental control over the individual in society.

However, in the second period, the increase in usage of privacy frames advocating an increase in access is not marked by a decrease in privacy frames advocating a decrease in access. In fact, at the aggregate level, both periods of time show remarkably similar usages of the *decrease in access* privacy frame. The disparity in the two periods of coverage appears to have been caused only by the increase of the number of increase in access privacy claims, as the nation sought to restore a sense of security following the attacks.

This implies that the *decrease in access* frame of privacy was more or less constant, though a larger sample of media messages over longer periods of time would be needed to show if the use indicates a consistent trend. What the data in the current study suggests is that the events of September 11 did not dramatically influence the use of the *decrease in access* privacy frame, but the events simply led to an increase in the number of *increase in access* privacy claims in the *New York Times*.

What impact did the events of September 11 have on the claims that we need to increase the level of surveillance available to authorities in American society?

Prior to the events of September 11, the majority of the stories analyzed contained more claims advocating a decrease in the access the government and corporate interests have to individuals than claims advocating an increase in access. One group of stories portrays the trade-offs consumers make when allowing companies to have more access to their data in exchange for increased convenience. For example, in the July 25 article depicting the exception a leading privacy group was taking to the new configuration of Microsoft's Windows XP platform, the claims of the privacy group advocating a restriction in Microsoft's access to the personal information of XP users was portrayed to be in direct conflict with the autonomy-enhancing features this configuration offered users.[28] The following day, an article about the trade-offs between allowing eToys to access one's personal information portrayed this same conflict.[29] These themes are also commonly found in articles discussing the pros and cons of using WWW cookies on commercial Web sites.[30]

Another type of story advocates the danger of allowing too much access to public records, such as voter registration records.[31] A third type of story discussed the invasiveness of surveillance technologies, such as still cameras[32] and surveillance cameras.[33]

Prior to the events of September 11, claims for an increase in access were not as common as claims for a decrease in access. The coverage appeared to contain more claims in favor of the protection of liberty than the need for security. In fact, the lone article discussing airport security focused on the benefits of using technology to make purchasing tickets and boarding the plane more convenient. In that article, a computer designer is attributed with a mild claim for more access when he acknowledges that technologies "speed up the time of check-in immensely" with the caveat that his only concern is that "no one checked my ID; I know I am O.K., but that is a bit scary with other people."[34]

After the events of September 11, the number of claims advocating an increase in access to individuals (and most often, the government's access to individuals) more than doubled. In the first week's coverage, these articles tended to discuss the government's response to the events[35] and the recovery effort, but even in the midst of that effort, the privacy of the victims was an element of concern.[36]

Stories containing claims for increased access involved the government's methodologies to intercept personal communication[37] as well as discussions about the legislation and policies implemented by Congress.[38] In addition, the paper included perspectives on the effects of proposed security measures, such as additional surveillance cameras and national identification cards.[39] Within a few days of the proposals to increase governmental surveillance of the American citizenry, advocates began to criticize the government's proposals as too invasive.[40] In addition, there were also articles expressing the same conflicts that business interests and government agencies posed to privacy that appeared in the earlier coverage period. For example, even after September 11, there were articles discussing the implications of Microsoft's XP platform for consumer privacy interests.[41]

What impact did the events of September 11 have on the claims that we need to increase the level of autonomy guaranteed to the American citizenry?

The analysis did not find much difference between the usages of either the *increase in autonomy* privacy frame or the *decrease in autonomy* privacy frame. This is not particularly surprising, for autonomy-based privacy is not often discussed in the mass media unless there is a pending court case that has autonomy implications (such as a case involving abortion rights) or a dispute over appropriate autonomy legislation (such as the recent controversy over stem cell research). The events of September 11 simply did not appear to affect the voices on either side of autonomy-based privacy issues.

What impact did the events of September 11 have on the claims that we need to increase the level of social influence and legal accountability placed upon the American citizenry?

Although the number of claims advocating more access to individuals by government and corporate interests, there did not appear to be any increase in the number of claims that citizens should be allowed to have access to each other. In fact, in both periods, the only frames used in stories concerning a citizen's right to privacy from other citizens were *decrease in access* frames.

This observation adds several intriguing dimensions to the privacy discourse for the time under scrutiny. First of all, it implies that there has been no advocacy for citizens to receive increased access to each other. Second, when increased access is advocated, the exclusive use of the *increase in access* frames for government and corporate entities seems to infer that this advocacy only applies to organizations, not social groups or individuals.

These two dimensions seem to imply that social pressure and mutual accountability among citizens are not goals of advocates on any given side of a privacy issue. This could mean that all sides are in agreement that social influence and accountability are non-existent in society and undesirable. It could also mean that social influence and accountability are already present in society in sufficient quantity and therefore not worth mentioning. Finally, it could simply mean that claims that individuals should have increased access to one another do exist, but are not perceived to be newsworthy by the *New York Times* for some reason. Clearly, further analysis and extended samples of coverage are needed to draw more informative inferences.

Week 14

After September 11, the average number of claims advocating a decrease in access-based privacy is less than the number of claims advocating an increase. Looking at the weekly results, the number of *decrease in access* claims are outweighed by the number of claims advocating an increase in access in every week except the 14th week (October 17-23), where no claims advocating an increase in access were found at all. During this week, the news was dominated by the revelation that many U.S. businesses had been negatively impacted by the downturn in the market as the third-quarter performance reports were released.

Implications for Journalists

The distinctions in how claims are made about privacy are extremely important to professional journalists for several reasons. First of all, by using a categorical classification system for competing privacy discourses, journalists can build a better framework for understanding what privacy means to our society, and thus helping them to develop ethical norms consistent with the demands of society. The current debates on privacy (particularly the ones concerning the intersections of technological innovations and privacy interests) tend to contain rather opaque conceptual terminology and arguments, making the issues and ramifications involved very difficult for the average news consumer to understand.

Second, a better understanding of the primary discourses of privacy will help professional journalists develop a better understanding of the values, opinions and goals of the people they present in the media. This increased understanding should allow them to better explain the critical positions and events to the citizenry of America. When events and issues are raised into the public eye that can potentially change the fabric of American society, journalists should be able to portray the different sides of a particular opinion or political stance. The more context provided in coverage of cultural changes, the better educated the public will become.

Third, a coherent method for understanding privacy discourse will give professional journalists insight into what the rights of American citizens actually are and what future rights are likely to be established. This understanding can help professional journalists and media managers avoid sticky legal infractions and violations of the privacy rights of the social actors that comprise the public interest.

Finally, categorical classes of privacy discourses will help existing mass media (as well as developing mass media formats) better understand their role in our evolving social structure. A clear conceptual understanding of the delineation between public and private spaces and behaviors can help media outlets better perform serve the public interests to which they are dedicated as socially responsible agencies. If the changes reflected in the legal and political environment since September 11 do become permanent components of American society, journalists should experience more freedom to obtain information (increased access) about citizens, but less freedom to obtain information (decreased access) concerning governmental entities.

Implications for Researchers

The apparent shift in the political and social discourse of privacy following September 11 demonstrates that privacy is not a consistently defined value of American society. When the security of the nation was threatened, the discourse surrounding privacy was affected in a manner that included an increased advocacy for access to the behaviors and activities of the citizenry in the name of restoring national security.

This attempt at understanding privacy in an isolated time frame has raised a few interesting questions. Future research efforts are needed to track the usage of privacy frames in the months and years following the events of September 11. In particular, it would be interesting to see how long the usage of the *increase in access* privacy frames remains elevated. By tracking the future uses of frames, it would be easier to articulate what lasting effects September 11 had on the American discourse of privacy.

Another area of inquiry could be to examine the relationship between access-based privacy frames and autonomy-based privacy frames in different circumstances. For example, a survey of the frames used during the stem-cell research controversy would probably yield very different results in the number of autonomy-based privacy frames used in the mass media. A comparison between the number and value of access-based privacy frames and autonomy-based privacy claims might shed some insight into how the two discourses are related in the media.

Limitations

Though the data did encompass all uses of the word and terms for privacy, the methodology used to collect the stories relies on the Lexis-Nexis staff's perception of privacy. It is conceivable that some stories containing phrases the coders would have added to the data might have been missed because neither 'privacy" or "access" appeared in the story's content or keywords. However, the purpose of this study was not so much to perform a quantitative content analysis as it was to gather a general impression of the changes in the period observed. More investigation into how Lexis-Nexis codes stories may be warranted for further inquiries.

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The Enactment of Journalists' Role Conceptions

Tim P. Vos

S.I. Newhouse School of Public Communications
215 University Place
Syracuse, New York 13244-2100

(315) 443-4078
tpvos@syr.edu

The Enactment of Journalists' Role Conceptions

An assumption behind research into journalists' role conceptions is that these conceptions shape the news stories that journalists ultimately report. For example, if a journalist conceives of his or her role as interpreting complex problems, the news story will subsequently be written with a significant amount of interpretation (i.e., either in the journalist's own voice or in his or in her selection of content an attempt will be made to make sense of complex problems). Graber (1993) states this assumption explicitly when she predicts that journalists' news stories will vary based on their role conceptions. This study tests this assumption by examining journalists' news story content in light of journalists' role conceptions.

The depth of the news-reflects-role assumption can be seen in the fact that most research into role conception is more interested in factors that shape role conceptions than in how role conceptions shape news. The seminal research of Johnstone, Slawski, and Bowman (1976) and Weaver and Wilhoit (1986, 1996) make just such assumptions—the attention is on the causes of role conceptions, e.g., looking at education, politics, and experience as predictors in role adoption. Henningham (1997) explores how personality shapes journalists' role conceptions and Dillon (1990) takes up the place of career values in predicting role conceptions.

Only a few studies have attempted to show an empirical relationship between journalists' role conceptions and news media content. Culbertson (1983) surveyed a wide array of journalists to ascertain their role conceptions and also surveyed them to discern preferences for various news forms, for length of stories, and other factors. The study, despite interesting findings (a correlation between role conception and news construction was largely supported), still relied on the self-reporting of journalists and not on the content those journalists produce. A study by Stark and Soloski (1977) used college journalism students in a quasi-experimental design to judge whether role conceptions, among other factors, influenced news writing. The study found a relationship did exist between role conceptions and the kind of news story that the student produced. Finally, Weaver and Wilhoit's (1996) study surveyed journalists about role conceptions and separately evaluated news stories that reporters considered their best work. The results produced different pictures of which role was the dominant role held or used by journalists.

A variety of role conceptions have been enumerated and defined in the last quarter-century. Research by Weaver and Wilhoit (1996) identifies four roles: disseminator, interpreter, adversarial, and populist mobilizer. If these role conceptions ultimately shape news, that shape should be traceable. Put another way, the content of news stories should bear the traces of journalists' role conceptions. However, As Zhu, Weaver, Lo, Chen and Wu (1997) note, journalists appear to be less than perfectly honest in their self-reporting. For example, essentially no journalists admit to valuing an entertainment role—though news content would seem to suggest otherwise.

The study that follows goes beyond the limits of previous research to also study journalists' roles through the actual news content produced by those same journalists. Reporters are surveyed to discern their role conceptions and the content of their news stories is analyzed to test the enactment (i.e., the actual manifestation) of their role conceptions in their news stories. The essential question is this: Do role conceptions accurately predict how journalists will write their news stories?

THEORY

The observation above that several researchers have assumed an influence of role conceptions on the construction of news should not be taken as implicit criticism. Many times assumptions are built on strong theoretical foundations. A sizeable body of literature on role theory informs understandings about role conceptions. Role theory has developed through several decades of theorizing and empirical research. The main tenet is that roles function as patterned behaviors that create stability in organizations and in society (Biddle, 1986). The role of journalist, for example, involves behaviors that result in the orderly production of news.

Roles are also normative—they regulate behavior. "A role is not just a repeated format, but a format to-be-followed, a guide. To enact a role is, wittingly or unwittingly, to invite expectations of further conformity" (Coyne, 1984, p. 260). Thus, journalistic role conceptions amount to informal rules for how the news media ought to function. As might be expected when norms are at stake, the nature of journalism's function has been contested, i.e., some see journalism's function or role as disseminating facts, some see the role as interpreting those facts, and still others see the role as something else.

Since roles by definition regulate behavior, roles function in a two-stage process. Roles must be conceived and roles must be enacted (Biddle, 1966). In other words, journalists must form some understanding of what their role is and this role conception then guides behavior, i.e., behavior is the enactment or concrete manifestation of the role conception. In this case role enactment is a way that a reporter writes a news story.

Research by Johnstone, Slawski, and Bowman (1976) and Weaver and Wilhoit (1986, 1996) indicates journalists have conceived and enacted one or more discrete roles. As Weaver and Wilhoit acknowledge, these roles are not static types, but products of their time. Thus, Johnstone, Slawski, and Bowman (1976) identified two journalistic role conceptions (neutral and participant). Weaver and Wilhoit (1986) and Culbertson (1983) found three roles during the following decade (disseminator, interpreter, and adversarial) and Weaver and Wilhoit (1996) added a fourth role (populist mobilizer) in their follow-up study in the 1990s.

Role conception distills journalists' "view of news journalism's basic purposes" (Weaver & Wilhoit, 1996, p. 133). Weaver and Wilhoit also refer to roles as "journalistic functions" and role conceptions as "core 'belief systems'" (1996, p. 137). Johnstone, Slawski, and Bowman (1976) put it even more bluntly—they identify role conceptions as ideologies. While journalists might balk at being labeled as ideologues or at having core belief systems, Weaver and Wilhoit's research shows that journalists do hold views of the role the news media play in society. For the purposes of this study, we will assume that the four roles identified by Weaver and Wilhoit (1996) still adequately catalog the views held by most journalists.

The study hypothesizes relationships between journalists' perceived roles and the roles reflected through a content analysis of news stories. Four hypotheses are tested:

H1: The more a journalist endorses an interpretative role, the more the journalist's stories will exhibit interpretative story elements.

H2: The more a journalist endorses a disseminator role, the more the journalist's stories will exhibit disseminator story elements.

H3: The more a journalist endorses an adversarial role, the more the journalist's stories will exhibit adversarial story elements.

H4: The more a journalist endorses a populist mobilizer role, the more the journalist's stories will exhibit populist mobilizer story elements.

Weaver and Wilhoit describe the interpretative function as "a blending of three important roles: investigating government claims, analyzing and interpreting complex problems, and discussing public policies in a timely way" (1996, p. 137). They see the disseminator role as "a meshing of two key roles: getting information to the public quickly, and avoiding stories with unverifiable 'facts'" (1996, p. 137). Weaver and Wilhoit consider the adversary function as a "melding of two items: being constantly skeptical of public officials as well as business interests"—summarized as "skepticism of those in power" (1996, p. 139). Weaver and Wilhoit find evidence of public or civic journalism taking hold is a populist mobilizer role, which they describe as "giving ordinary people a chance to express their views on public affairs" (1996, p. 140).

What Weaver and Wilhoit and others suggest is that news stories take on the characteristics of these various roles. Thus, we can also identify news stories as largely interpretation, dissemination, adversarial, or populist mobilization. However, researchers fail to define these descriptions in terms of their news story content. Nevertheless, given the broad outlines provided by Weaver and Wilhoit (1996) and the history that they tap in identifying these roles, it is possible to define news content in light of these four categories.

For example, interpretative news stories are those that investigate government claims, analyze and interpret complex problems, and present a discussion of public policies in a timely way. Journalism history helps flesh out interpretation. The Commission on the Freedom of the Press described the role of journalists as providing an "intelligent account of the day's events in a context that gives them meaning" (1947, p. 20) and investigating "the truth about the fact(s)"

(1947, p. 22). And MacDougall's landmark text, *Interpretative Reporting*, pulls together a number of brief phrases or single words to explain the interpretative role as "'subsurface' or 'depth' reporting, to 'take the reader behind the scenes of the day's action,' 'make sense out of facts,' 'put factual news in perspective,' 'put meaning into the news,' 'point up the significance of current events,' and so on" (1982, p. 17).

Weaver and Wilhoit's description of the dissemination role can be turned into a description of news as information given to the public quickly and containing only verifiable facts. But more than that, Weaver and Wilhoit are describing a view of objective journalism that arises out of more than a century of tradition. McQuail (1987) expands the definition of dissemination or objective news—it is marked by factualness and impartiality. For example, "Factualness refers to a form of reporting which deals in events and statements which can be checked against sources and are presented free from comment" (McQuail, 1987, p. 131). Impartiality refers to a story's balanced treatment of competing interests, i.e., to "equal or proportionate time/space/emphasis" (McQuail, 1987, p. 131).

Adversarial news would be stories that contain a skeptical narrative about those in power. Journalism history has helped define this watchdog role. The adversarial, investigative journalism of the twentieth century built on the turn a tradition of exposing the public sins of the powerful. A former executive director of Investigative Reporters & Editors (IRE) maintains that this kind of adversarial, investigative journalism has an "element of exposing wrongdoing, of uncovering violations of law, regulation, codes of standards, or even common sense decency" (Ullman, 1995, p. 3). Protess, Cook, Doppelt, Ettema, Gordon, Leff, and Miller (1991) explain what an investigative, adversarial story looks like—each story has "an evolving cast of characters. Villains and victims appear. The plot thickens as patterns of wrongdoing emerge.

New characters enter, creating twists in the story line. Political actors frequently try to steal the scene or relieve the tension" (1991, p. 203). While this is clearly not a formula that describes all stories, it gives the narrative sweep of an adversarial story.

News that actualizes a populist mobilizer role contains views of ordinary people. As Weaver and Wilhoit point out, the impetus behind this role is the public or civic journalism movement. The literature on civic journalism helps expand and in some ways correct the type of news story Weaver and Wilhoit would point us toward. While civic journalism is interested in the views of "ordinary people," it attempts to include views from a variety of "layers of civic life" and from different types of community leaders (Pew Center for Civic Journalism, 2000, p. 10). In the process, views will not fall into extremes, but reflect the diversity of the wider community. According to the civic journalism literature, this will lead to stories, not just on problems, but "constructive ideas and solutions" (Pew, 2000, p. 33).

If these role conceptions or views of basic functions rise to the level of a belief system or ideology, we would expect that they are at once prescriptive and descriptive. Indeed, what Weaver and Wilhoit and others describe is a consistent way of looking at reality, i.e., akin to a world view, but confined to an occupational slice of the world. We have clear reasons to hypothesize, just as others have assumed, that role conceptions shape news stories.

So why are these assumptions worth putting to the test? Journalists may not always successfully bridge the gap between theory and practice for any variety of reasons. For example, reporters are members of organizations—reporters may work in teams and must submit copy to editors. In other words, other news workers may have a hand in how a story turns out. While reporters may embrace one role, the topics of the news stories they are working on may lead them down other paths. Reporters may fall back on a dissemination role under time pressures, even though they value an interpretation role more. Or, even though a journalist may see the social value of an adversarial role, he or she may have been educated and trained primarily in dissemination.

METHOD

This study begins with an exploration of two things about journalists: (1) What do they conceive as their journalistic role? (2) What role or roles are manifest or enacted in the journalists' stories? Beyond this initial exploration, answers to the first two questions must be compared for each journalist. This comparison allows for the identification of agreement or disagreement between reporters' role conceptions and role enactments.

To discern how journalists perceive their role, a group of journalists were chosen for analysis. A purposive sample of reporters was produced through three steps. First, a list of all daily newspapers that are published in major metropolitan areas (as designated by *Working Press of the Nation*) was constructed using the 2001 directory, *Working Press of the Nation*. Second, a Lexis-Nexis search was conducted to ascertain the availability of the newspapers on the list constructed in step one. And third, the first reporter listed in the Lexis-Nexis search was listed as the subject for the study. Sports reporters were the only names disqualified from the list since they were judged to be outside the scope of this study. This three-step process produced a sample population of 102 reporters. Those on the list were then sent a mail survey to ascertain their role conceptions.

The mail survey adopts the operational definitions of Johnstone, Slawski, and Bowman (1976) and Weaver and Wilhoit (1986, 1996) to identify role conceptions. Role conceptions have been identified through twelve questions taken directly from Weaver and Wilhoit (1996, p.

136). The interpretative role is operationalized through three questions: How important is it to investigate claims and statements made by the government? How important is it to provide analysis of complex problems? How important is it to discuss national policy? The disseminator role is also operationalized via three questions: How important is it to get information to the public quickly? How important is it to avoid stories with unverified content? How important is it to concentrate on the widest audience? The adversarial role is operationalized through two questions: How important is it to serve as an adversary of government? How important is it to serve as an adversary to business? The populist mobilizer role was assessed through two questions: How important is it to set political agenda? How important is it to let people express their views?

Weaver and Wilhoit (1996) allowed for other, unaligned roles through two additional questions. How important is it to develop intellectual or cultural interests? How important is it to provide entertainment? However, since they fail to factor into the hypotheses in this study, they have been omitted.

Respondents must answer each of these questions with, extremely important, quite important, somewhat important, and not really important (or don't know or refused). These are the same options offered by Weaver and Wilhoit (1986, 1996) and Johnstone, Slawski, and Bowman (1976). Thus, the maximum value (for extremely important) was four for each statement and the minimum value (for not really important) was one for each statement.

Journalists are also asked to rank order the top three roles based on the ten questions indicated above. The instructions are to: From the list used above, which do you feel are the three most important things for a reporter to do? Please rank your top three choices by writing 1, 2, or 3 next to the statement. The list that follows includes: Get information to the public quickly, investigate claims and statements made by the government, avoid stories with unverified content, provide analysis of complex problems, serve as an adversary of government, concentrate on the widest audience, set political agenda, serve as an adversary to business, discuss national policy, and let people express their views. This ranking is an auxiliary devise to be used in determining the reporter's first choice among the four role conceptions. If respondents end up with equal ratings on two or more roles, the rank order can be used to 'break the tie.'

Once the journalists were selected and their surveys returned a Lexis-Nexis search is used to locate those news stories that contain the bylines of each journalist. The five most recent news stories are selected from each journalist's body of work. A content analysis of each news article determines the strength of story elements by role-type.

The content analysis requires operational definitions of the four types of news story content based on the enactment of the four roles. The operational definitions take the form of several statements and are based directly on the role conceptions used in Weaver and Wilhoit (1996). The enactment of the interpretative role is based on three statements: The news story investigates claims and statements made by the government. The news story provides analysis of complex problems. The news story discusses national policy. Likewise, the enactment of the disseminator role is measured through three statements: The news story gets information to the public quickly. The news story avoids unverified content. The news story concentrates on the widest audience. The enactment of the adversarial role is determined through two statements: The news story serves as an adversary of government. The news story serves as an adversary to business. And the enactment of the populist mobilizer role is assessed through two statements: The news story attempts to set the political agenda. The news story lets people express their views. Coders rated each news story by indicating strongly agree, agree, disagree, and strongly disagree for each of the ten statements indicated above. Thus, the maximum value (for strongly agree) was four for each statement and the minimum value (for strongly disagree) was one for each statement.

The indicators for each role conception and role enactment are averaged. The result is a comparison between how strongly journalists' hold various role conceptions and the strength of the journalists' role enactments. This allows for a crosstabulation to test the study's four hypotheses. Although the argument could be made to treat the scales as interval, cross-tabulation is used since the original research by Weaver and Wilhoit (1986, 1996) and Johnstone, Slawski, and Bowman (1976) treated the variables on an ordinal scale.

RESULTS

The survey of journalists resulted in 32 valid responses, for a return rate of nearly 32 percent after one mailing. The respondents' answers to the ten questions indicate their relative endorsement of a variety of journalistic roles (see Table 1). The responses are grouped according to the index devised by Weaver and Wilhoit (1996). The result is a picture of the relative endorsement of the four journalistic roles. As Weaver and Wilhoit also discovered, this survey shows that journalists could hold equally to more than one role conception. So, while the survey attempts to discern the role that the respondent held in highest regard, it is possible for respondents to give equal rankings to two, three or four roles, e.g., equally high or equally low. In reality, only a few respondents rated two or three roles equally high. At the end of the survey, journalists are asked to rank order the three most important journalistic roles (based on the ten questions). This provides a tiebreaker for four respondents. The survey found broad endorsement of the interpretative and disseminator role conceptions—replicating the findings of

Weaver and Wilhoit (1996). The interpretative role is ranked highest by 17 respondents (or 53%); the disseminator role is ranked highest by 11 respondents (or 34%); the populist mobilizer role is ranked highest by 3 respondent (or roughly 9%); and the adversarial role is ranked highest by 1 respondent (or roughly 3% each).

Insert Table 1 about Here

The second part of this study examined a sample of five news stories for each of the 32 respondents. The author and one additional coder performed the content analysis. The second coder coded 16 % of the stories. Intercoder reliability was calculated using Scott's pi and equaled .84. The news stories were rated based on ten statements (adapted from the ten questions used to measure role conception). The result was a rating of the enactment of journalistic roles in journalists' news stories (see Table 2). Weaver and Wilhoit's index determined the relative enactment of the four journalistic role conceptions. Here the disseminator role was rated highest for 20 of the journalists (or 63%); the interpretative role was rated highest for 6 journalists (or 19%); the populist mobilizer role was rated highest for 5 journalists (or 16%); and the adversarial role was rated highest for 1 journalist (or 3%).

Insert Table 2 about Here

The final step is a cross-tabulation of role conceptions and role enactments to test the four hypotheses of this study (see Table 3):

H1: The more a journalist endorses an interpretative role, the more the journalist's stories will exhibit interpretative story elements.

H2: The more a journalist endorses a disseminator role, the more the journalist's stories will exhibit disseminator story elements.

H3: The more a journalist endorses an adversarial role, the more the journalist's stories will exhibit adversarial story elements.

H4: The more a journalist endorses a populist mobilizer role, the more the journalist's stories will exhibit populist mobilizer story elements.

Insert Table 3 and 4 about Here

The findings show that all four research-hypotheses were not supported (p = .21), i.e., in each case, the role conception is not significantly associated with role enactment. Even though 8 of 11 journalists who rated a disseminator role highest also rated highest in disseminator role enactment, 12 of 17 journalists who rated the interpretative role highest, rated highest in the disseminator role. The Kendall's tau-b shows more discordant pairs than concordant pairs (-.25). Dispensing with the adversarial and populist mobilizer roles from the analysis removes four cases (See Table 4). However, the results do not change the lack of support for hypotheses one and two (p = .56, Kendall's tau-b = -.12).

DISCUSSION

This study set out to find an empirical basis for the assumption that journalists' role conceptions shape how journalists write their news stories. A number of studies that have examined journalistic role conceptions have predicted, or in some cases, assumed such an empirical relationship exists. Indeed, scholars could point to a number of good reasons for this assumption. For example, given that role conceptions have been conceptualized as "core 'belief systems,'" core beliefs, by definition, are assumed to guide and shape human action (Weaver & Wilhoit, 1996, p. 137). Likewise, when Johnstone, Slawski, and Bowman (1976) refer to role conceptions as ideologies, the presumption is that ideologies direct human actions.

Most of the studies that examine how role conceptions enter into the construction of news visualize a linear arrangement where, for example, personality or career values or job experience influence role conception and role conception then influences how news stories are written (i.e., what has been called here, role enactment). The findings in this study suggest scholars may need to visualize these influences differently. Not only may other factors interrupt the linear relationship between role conception and role enactment, but also the relationship may not be so linear to begin with. In other words, a journalist's role conception may be little more than one factor in whether a news story plays an interpretation, dissemination, adversarial, or populist mobilizer role.

For example, one decision in the research design points up a factor that may affect the relationship between role conception and role enactment. When the search for news stories by the survey respondents turned up stories with more than one author, a decision had to be made whether to include those news stories in the sample of stories for content analysis. The decision was ultimately made to include these stories given the larger context of this research—a study of factors that shape the construction of news. A historical shift to a more team-based approach to news writing is a factor that should be researched when studying the construction of news. In reality, a number of explanations are possible. For example, editors may be responsible for dictating how a story is to be written or may edit an article according to his or her own role conceptions.

The only suggestion that role conceptions and role enactments would not match came in Weaver and Wilhoit's (1996) study of journalists' best work. A content analysis of news stories that journalists considered their very best displayed attributes of roles in a different distribution than the survey of role conceptions would have indicated. While the interpretative role was most popular in the Weaver and Wilhoit survey, the disseminator role was most popular in the stories studied—the same as was found here. Weaver and Wilhoit made little of their finding for two reasons: 1) the sample was far from random (it was journalists self-selected best work), and 2) the study did not "match actual stories with survey respondents" (Weaver & Wilhoit, 1996, p. 229). The findings of the study here encourage researchers to take Weaver and Wilhoit's original findings on role enactment more seriously.

While, this study has the advantage of matching actual stories with survey respondents, it suffers from its small sample size and low return rate. If Weaver and Wilhoit, or another team, are to replicate their study yet again, they should give serious consideration to adding content analysis of news stories, matched to survey respondents. While this would make for a substantially more involved project, the dividends for scholarship on journalistic role conceptions would be high.

Another limitation of this study was the strict adherence to the survey questions formulated by Weaver & Wilhoit (1986, 1996) and Johnstone, Slawski, and Bowman (1976). For example, the term "adversary" may arouse different connotations now than it did a quarter century ago. Unsolicited feedback from a number of the respondents, questioned the use of the term. Similar problems of ambiguous or changing meaning arose when attempting to adapt the survey questions to statements about news stories. For example, the question, "How important is it to let people express their views?" is meant, according to Weaver and Wilhoit to capture something of "the 'public journalism' movement" (1996, p. 140). If this is the case, the question could better refer to "common people" than simply "people"—"people" can mean different things to journalists on the one hand and to coders looking for evidence of a populist mobilizer or public journalism function on the other hand.

Nevertheless, the findings of this study suggest we think anew about how role conception enters into the construction of news. Role conceptions may indeed contribute to how news stories turn out, however, a simple causal explanation of role enactment based on role conception needs to be met with new skepticism.

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Table 1. Percentages for journalists' role conceptions

Variables	%
How important is it to investigate claims and statements made by the government?	
Extremely important	62.5
Quite important	34.4
Somewhat important	3.1
Not really important	0.0
	100.00%
	(N=32)
How important is it to provide analysis of complex problems?	
Extremely important	59.4
Quite important	40.6
Somewhat important	0.0
Not really important	0.0
	100.00%
	(N=32)
How important is it to discuss national policy?	
Extremely important	43.8
Quite important	34.4
Somewhat important	18.8
Not really important	3.1
	100.00%
	(N=32)
How important is it to get information to the public quickly?	
Extremely important	40.6
Quite important	53.1
Somewhat important	6.3
Not really important	0.0
	100.00%
	(N=32)
How important is it to avoid stories with unverified content?	
Extremely important	78.1
Quite important	21.9
Somewhat important	0.0
Not really important	0.0
	100.00%
	(N=32)

How important is it to concentrate on the widest audience?	
Extremely important	9.4
Quite important	46.9
Somewhat important	40.6
Not really important	3.1
	100.00%
	(N=32)

How important is it to serve as an adversary of government?	
Extremely important	18.8
Quite important	18.8
Somewhat important	28.1
Not really important	34.4
	100.00%
	(N=32)

How important is it to serve as an adversary to business?	
Extremely important	6.3
Quite important	15.6
Somewhat important	40.6
Not really important	37.5
	100.00%
	(N=32)

How important is it to set political agenda?	
Extremely important	6.3
Quite important	15.6
Somewhat important	25.0
Not really important	53.1
	100.00%
	(N=32)

How important is it to let people express their views?	
Extremely important	53.1
Quite important	40.6
Somewhat important	6.3
Not really important	0.0
	100.00%
	(N=32)

Table 2. Percentages for enactment of journalists' role conceptions

Variables	%
The story investigates claims and statements made by the government.	
Strongly agree	6.3
Agree	40.6
Disagree	28.1
Strongly disagree	25.0
	100.00%
	(N=32)
The story provides analysis of complex problems.	
Strongly agree	3.1
Agree	34.4
Disagree	50.0
Strongly disagree	12.5
	100.00%
	(N=32)
The story discusses (national) policy.	
Strongly agree	18.8
Agree	34.4
Disagree	46.9
Strongly disagree	0.0
	100.00%
	(N=32)
The story gets information to the public quickly.	
Strongly agree	6.3
Agree	28.1
Disagree	37.5
Strongly disagree	28.1
	100.00%
	(N=32)
The story avoids unverified content.	
Strongly agree	21.9
Agree	65.6
Disagree	9.4
Strongly disagree	3.1
	100.00%
	(N=32)
The story concentrates on the widest audience.	
Strongly agree	62.5
Agree	37.5
Disagree	0.0
Strongly disagree	0.0
	100.00%
	(N=32)
The story serves as an adversary of government.	

Strongly agree	0.0
Agree	21.9
Disagree	37.5
Strongly disagree	40.6
	100.00%
	(N=32)
The story serves as an adversary to business.	
Strongly agree	3.1
Agree	3.1
Disagree	34.4
Strongly disagree	59.4
	100.00%
	(N=32)
The story functions to set the political agenda.	
Strongly agree	3.1
Agree	46.9
Disagree	34.4
Strongly disagree	15.6
	100.00%
	(N=32)
The story lets people express their views.	
Strongly agree	15.6
Agree	15.6
Disagree	31.3
Strongly disagree	37.5
	100.00%
	(N=32)

Table 3. Crosstabulation of journalists' role enactment with journalists' role conceptions

Journalists' Role Enactments	Journalists' Role Conceptualizations Interpretative	Disseminator	Adversarial	Populist Mob.
Interpretative	5.9 %	27.3 %	0.0 %	66.7 %
Disseminator	70.6	72.7	0.0	0.0
Adversarial	5.9	0.0	0.0	0.0
Populist Mobilizer	17.6	0.0	100.0	33.3
	100.0% (N=17)	100.0% (N=11)	100.0% (N=1)	100.0% (N=3)

Kendall's tau b = -.25, p = .21

Table 4. Crosstabulation of journalists' role enactment with journalists' role conceptions

Journalists' Role Enactments	Journalists' Role Conceptualizations Interpretative	Journalists' Role Conceptualizations Disseminator
Interpretative	17.6 %	27.3 %
Disseminator	82.4	72.7
	100.0% (N=17)	100.0% (N=11)

Kendall's tau b = -.12, p = .56

THE CREDIBILITY OF NEWSPAPERS, TELEVISION NEWS, AND ONLINE NEWS

Rasha A. Abdulla, Bruce Garrison,
Michael Salwen, Paul Driscoll, and Denise Casey

School of Communication
University of Miami
P.O. Box 248127
Coral Gables, FL 33124-2105
bruce@miami.edu

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THE CREDIBILITY OF NEWSPAPERS, TELEVISION NEWS, AND ONLINE NEWS

Abstract

This exploratory study analyzes the components of credibility of news from newspapers, television, and online sites. A national telephone survey of 536 adults was conducted in February 2002. Respondents evaluated the credibility of newspapers, television news, and online news using a variation of Gaziano and McGrath's 12-item Likert-type news credibility scale. While there were similarities in how each medium was perceived, the study also revealed some fundamental differences. Respondents evaluated newspaper and television news credibility more similarly than they did online news credibility. Respondents judged all three news media most positively in terms of current, up-to-date, and timely and most negatively in terms of bias and completeness. However, online users were less negative than newspaper readers and television viewers. Factor analyses yielded somewhat different dimensions. Newspaper credibility was found to have balance, honesty, and currency dimensions. Television news credibility was found to have two main components based on fairness and currency. Online news credibility, however, was built upon trustworthiness, timeliness, and bias factors.

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THE CREDIBILITY OF NEWSPAPERS, TELEVISION NEWS, AND ONLINE NEWS

The number of adults using the Internet to find and read news online is consistently on the rise. One national study by the Pew Research Center reported that weekly use of online news tripled from 11 million to 36 million people in the United States between 1996 and 1998, which the center called "astonishing" (Pew Research Center, 1998). Other studies have shown similar growth in use of the Internet, the World Wide Web, and other online information resources (for example, see Jupiter Media Metrix, 2001; Nielsen Media Research, 1999).

One issue that has emerged because of this growth is the credibility of new information technologies and new media news delivery systems. Widespread access to personal information, including tracking online purchases, property ownership records, and residential telephone numbers, have led to growing public distrust of online sources of information. One analysis reported that barely one in three media Web sites posted their privacy policies for information provided both voluntarily (e.g., personal electronic mail addresses or other information taken from user registration forms) and involuntarily (e.g., Web browser "cookies" or tracking specific page visits and clicks within a Web site) by users (Pryor & Grabowicz, 2001). Even when they are posted, online statements of privacy policy are often lengthy and nearly incomprehensible. They tend to serve more as a legal alibi for the Web site owner than an actual information source for site users.

The purpose of this study was to investigate the similarities and differences of user perceptions of the credibility of traditional news media delivery systems—

newspapers and television news— and the credibility of Web-based online news. Specifically, this paper investigates news credibility in an attempt to determine the components of news credibility across traditional and the new online news media.

Because of privacy issues, content accuracy, reliability, and other related concerns, some observers have predicted a troubled future for online news. Johnson and Kaye (1998) reminded us that one of the basic characteristics of the Internet, its potential free access to everybody to upload information without much scrutiny, might affect the credibility of the medium as a source of information. Flanagin and Metzger (2000) noted that while newspapers, books, and television undergo a process of information verification before they reach the public, Internet sites do not always use such measures. The lack of editorial and gatekeeping rules similar to those in the traditional print and broadcast news media is central to the problem. This, of course, is likely to increase the importance of branded online news sites such as CNN.com and perhaps emphasize the value of the so-called "halo effect" of an existing print or television news organization to its online equivalent (such as *Time* magazine and its Web counterpart, Time Online).

Schweiger (1998) pointed out that credibility becomes an important heuristic for content selection at a time of information overload. Credibility may also influence the journalistic and commercial success of a medium (Schweiger, 2000). Online news industry observers and newspaper editors have expressed similar concerns over credibility, believability, ethical lapses, newsgathering techniques, and news presentation (Lasica, 2001; Arant & Anderson, 2000). These and numerous other professional issues are frequent topics of discussion and debate on the pages of the *Online Journalism Review* (http://ojr.usc.edu).

CREDIBILITY OF ONLINE NEWS

Studies conducted in recent years have analyzed the dimensions of computing technology, the Internet, the Web, and online news credibility. The early public views of the precision and accuracy of computers led to a common perception of their infallibility and believability, even the basic credibility of computer-based technologies has been studied (Tseng & Fogg, 1999). A number of scholars have emphasized the importance or "crucial" nature of such research (Johnson & Kaye, 1997; Johnson & Kaye, 1998).

Newhagen (1997) studied the perception of interactivity in mass media and computer networks. He found that respondents who had e-mailed comments to a network news program rated traditional mass media to be less interactive, less important and of lower quality than a national sample. While interactivity ratings did not predict mass media credibility, respondents who had e-mailed NBC and those who defined interactivity as "cybernetic feedback" (the feedback necessary to the maintenance as a self-regulating system) found computer communication to be more credible than those who did not.

In their study of computer technology credibility, Tseng and Fogg (1999) found that computer users desire to trust their systems, but that the trust is often undermined when the system delivers erroneous information. They described four types of computer-based credibility: presumed (based on assumptions), reputed (based on third-party reports), surface (based on primitive inspection), and experienced (based on first-hand experience). They further explained that user expertise, user understanding, user need for information, and evaluation errors influenced this credibility.

Flanagin and Metzger (2001) observed that much media credibility research has ignored online news and that the bulk of research was conducted prior to online news development. There are differences, these scholars have argued, between online news and other more-established news media such as television, radio, and newspapers. Online news can be reported at any time. The newspaper, by contrast, is limited to when people obtain the hard copy. Thus, the dimension of timeliness must be considered in studying credibility of the Internet as a medium.

Flanagin and Metzger (2001) concluded that the Internet is a "multidimensional technology used in a similar manner to other more traditional media" (p. 153). News communication technologies extend users' capabilities but eventually are folded into traditional media. They found online conversational uses (such as chat rooms, electronic mail, and the telephone) that paralleled traditional media. They also found information-retrieval and information-giving similarities (such as online news and the news media). They concluded that "needs fulfilled by these channels cluster in ways consistent with past research, regardless of the technologies employed to meet them" (p. 153).

In an earlier study, Flanagin and Metzger (2000) investigated perceptions of Internet information credibility in comparison to other media. They concluded that the Internet was as credible as television, radio, and magazines, but not newspapers. They found that credibility varied by medium among different types of information sought by audiences, such as news and entertainment. Respondents reported that they did not verify information found on the Internet, but this finding also varied by the type of information needed. The amount of experience using the Internet and how an individual perceived the information were associated with efforts to verify online information.

Schweiger (2000) found newspapers in Germany were rated ahead of the Web and television on nine of eleven credibility items. He also found that Web users and non-users alike rate the credibility of the Web as remarkably similar to television and newspapers. Nadarajan and Ang (1999) found few online newspapers with corrections policies, but that errors were corrected as needed. They concluded that the capabilities of the Web, such as hyperlinks and archiving, were not well used to enhance online news and information accuracy. In fact, they said current practices "add to the clutter of viewpoints that is symptomatic of this age of information overload" (p. 21). While they do not directly connect this to online news credibility, the implications are clear.

Sundar (1999) determined four basic factors in the perception of online news stories: credibility, liking, quality, and representativeness. He explained that credibility in this context was a "global evaluation of the objectivity of the story" (p. 380). Johnson and Kaye (1997, 2000) found online media to be more believable, fair, accurate, and in-depth than traditional news media. Both online news media and traditional news media were judged to be somewhat credible. In an earlier study, Sundar (1996) determined that subjects rated stories with direct quotations from sources to be significantly higher in credibility and quality than those without quotations. The use of direct quotations did not appear to affect subject ratings of liking for online news or perceptions of representativeness-newsworthiness of the online news.

Kiousis (1999) found news credibility perceptions to be influenced by media use and interpersonal discussion of news. He found general skepticism about news, but people rated newspapers as more credible than online news or television. Online news, however, was rated more credible than television. Like other studies of print and broadcast news media, Kiousis found credibility rating of a medium associated with its use. He also found links between discussion of news and perceptions of television news, but not for online news or newspapers. He offered evidence of links between media use and public perceptions of credibility for newspapers and television news, but not in the assessment of online news.

Using credibility as their focus, Johnson and Kaye (1998) concluded that online news media and online candidate literature were perceived to be more credible than traditional print and broadcast news media, even though both online news and traditional news media were perceived to be somewhat credible. No differences were found for news magazines and issue-oriented sources.

Finberg, Stone, and Lynch (2002; see also Online News Association, 2001) found one main concern about online news credibility was the perceptions of other journalists, who do not hold it in high regard. The national study determined that online news was a supplementary news source for most users. They also observed that the public has accepted online news as a credible news option, that many readers did not feel online news credibility was an issue.

MEDIA CREDIBILITY MEASURES

Researchers have utilized a variety of measurements and statistical procedures in their quest to understand media credibility. Bivariate and multivariate approaches have been used, including regression analysis (Mulder, 1980; Mulder, 1981) and factor analysis. While many have used traditional data-collection methods such as telephone surveys and laboratory and field experiments, new technologies such as online surveys and other experiments are beginning to be used as well (Johnson & Kaye, 1998; Sundar, 1998). Online surveys using electronic mail and the Web, however, have unresolved methodological issues such as low response rates, self-selection bias, and access (Couper, Traugott & Lamias, 2001; Schaeffer & Dillman, 1998).

Infante (1980) used three dimensions to measure source credibility. These were trustworthiness, expertise, and dynamism. Trustworthiness was operationalized as honest-dishonest, trustworthy-untrustworthy, and sincere-insincere. For expertise, he used skilled-unskilled, qualified-unqualified, and informed-uninformed. For dynamism, he used bold-timid, active-passive, and aggressive-meek.

Johnson and Kaye (1998, 2000) employed believability, fairness, accuracy, and depth of information in their study. Sensationalism was one of six dimensions used by Sundar (1996). He also used accuracy, believability, bias, fairness, and objectivity. Kiousis (1999) measured online news credibility by asking respondents to assess whether online news is factual, concerned with making profits, invades people's privacy, is concerned about the community's well being, and cannot be trusted on a five-point Likert-type scale ranging from strongly agree to strongly disagree.

Numerous researchers have developed media credibility scales. Despite the diversity of scales, the various scale items are highly similar and measure the same underlying dimensions. Rather than searching for a single scale, researchers often create *ad hoc* scales to tap into hypothesized "dimensions" of credibility. Sundar (1999) developed a credibility scale applicable to both newspapers and online newspapers. He found "striking similarity between the factor structures underlying receivers' perceptions of print and online news" (p. 382). He claimed this similarity made it possible to use the same scales for different media, which he described as a "boon" to researchers (p. 382). Flanagin and Metzger (2000) used single-item measures in studying the credibility of Internet information. They operationalized credibility as a multidimensional concept built from five traditional components found in the literature: believability, accuracy, trustworthiness, bias, and completeness.

Trustworthiness, fairness, bias, completeness, respect for privacy, representation of individual interests, accuracy, concern for community well-being, separation of fact and opinion, concern for public interest, factual foundations of information published, and qualifications of reporters were used among the credibility measures by Rimmer and Weaver (1987). The study's second set of measures was derived from traditional Roper-style media use and preference questions.

Meyer's (1988) index for newspaper believability was comprised of five dimensions. These included fairness, bias, completeness, accuracy, and trustworthiness. He also identified evidence that a newspaper's credibility and "lovability" may be the same dimensions. Ognianova (1998) utilized nine semantic differential items to measure online news story credibility. They were factual/opinionated, unfair/fair, accurate/inaccurate, untrustworthy/trustworthy, balanced/unbalanced, biased/unbiased, reliable/unreliable, thorough/not thorough, and informative/not informative.

Wanta and Hu (1994) used believability and affiliation indices to evaluate media credibility. The believability index was built around media manipulation of public opinion, getting facts straight, dealing fairly with all sides of an issue, and separation of fact from opinion. Affiliation was measured with concern for community well being, watching out for reader interests, and concern for public welfare.

Gaziano and McGrath (1986) identified twelve dimensions of newspaper and television news credibility. They included fairness, bias, completeness, accuracy, respect for privacy, watch for people's interests, concern for community, separation of fact and opinion, trust, concern for public interest, factual, and level of training. Furthermore, Gaziano's (1987) analysis of four major credibility studies found twelve operationalizations of credibility. These included believability; accuracy, completeness, and covering up facts; trustworthiness and reliability; being unbiased, balance of coverage, fairness, objectivity; other characteristics of press performance, such as invasion of privacy, covering up stories; overall evaluations of how well media perform; confidence in media institutions, comparisons of media with other institutions; independence of media from special interests, other organizations, institutions; power/influence of media in community or society; relationship of news media to government; honesty and ethical standards; and professionalism, training of people in the media. Gaziano noted that these measures had also been used in studies by Hovland and Weiss (1951), Meyer (1988), and others. Gaziano and McGrath observed that media credibility is comprised of "fairness, (un)bias, telling the whole story, accuracy, respect for privacy, watching out after people's interest, concern for community well-being, separation of fact and opinion, trustworthiness, concern for public interest, factuality, and reporter training level" (Rubin, Palmgreen, & Sypher, 1994, p. 234). Rimmer and Weaver (1987) reported a Cronbach alpha of 0.90 for the Gaziano and McGrath scale for both newspapers and television. Meyer (1988), however, criticized the Gaziano and McGrath scale as lacking face validity and theoretical grounding. He replicated Gaziano and McGrath and developed a five-item news credibility scale. The items – fair, unbiased, tells the whole story, accurate, and can be trusted – yielded a Cronbach alpha of 0.83. Meyer argued that his scale had face validity as the concept of believability was reflected in each of the five items (Rubin, Palmgreen, & Sypher, 1994, pp. 234-36).

RESEARCH QUESTIONS

This study investigates the credibility of news across traditional and online media. It examines the dimensions of news credibility as a threshold to what predicts news credibility. Online news credibility is investigated against use patterns and user demographics using the orientation of the Gaziano and McGrath credibility scale (1986).

Credibility research comparing the Internet to traditional news sources has not been conclusive or consistent (Flanagin & Metzger, 2000). Research about print newspapers and online newspapers suggests additional, perhaps new, dimensions may exist. For example, print newspapers are regarded as a serious news medium. Newspapers, after all, by their very name are committed to "news." Television news, by contrast, is regarded as less serious because the medium of television is not primarily associated with news and credibility studies have shown television credibility to be more based on individual on-air personalities such as news anchors than the news organization or station (Newhagen & Nass, 1987). Television news is often viewed as an addendum to the entertainment medium. Similarly, the Internet and the Web are not solely devoted to news. Thus, the "entertainment" dimension must be considered when print and online newspapers are compared.

The following research questions guided this study:

1. What are the primary components of newspaper, television news, and online news credibility?

2. What similarities and differences are found in the credibility dimensions of newspapers, television news, and online news?

METHODS

This study is based upon a national probability sample from the 50 states and District of Columbia. Data were collected using a telephone survey of adults age 18 or older, conducted during February 4-7, 2002. A total of 536 interviews were completed. The response rate, excluding businesses, fax machines, numbers not in service, and other ineligibles, was 41%. Interviewers were communication students trained and supervised by the authors. At least two callback attempts were made to complete interviews.

The sample was drawn using a stratified design, proportionate to the population of the United States. Population figures were obtained from the 2000 U.S. Census (http://blue.census.gov/population/www/cen2000/respop.html). Using proportions equal to each state's population, interviewers were assigned to complete calls to residents utilizing a modified random digit dialing model. Residential telephone numbers were drawn from the fall 2001 edition of the national Select Phone telephone software on compact disc and database published by InfoUSA (Select Phone Pro CD database, Ver. 2.1, winter edition, InfoUSA, Omaha, Neb., 2002). Random residential telephone numbers were generated on a state-by-state basis from the database of over 100 million telephone numbers using a table of random numbers and the random number function built into the Select Phone software. Each state roster of chosen numbers was adjusted using the one-up and one-down last digit method to include unlisted and other numbers not included in the published CD database.

Prior to asking respondents to evaluate a particular news medium using the scale, interviewers "qualified" responses by establishing use of the medium. Media use was defined as at least one day per week of newspaper readership, at least one day per week of television news viewing, and, for online news users, at least one day per week of either (a) use of online news on the Web, (b) use of online news through an Internet Service Provider (ISP), or (c) use of online news through an Internet search engine portal.

The survey instrument included a news credibility scale adapted from Gaziano and McGrath (1986; see also Rubin, Palmgreen, and Sypher, 1994). The Likert-type scale had a total of twelve items, focusing on traditional credibility components (trustworthiness, currency, bias, fairness, completeness, objectivity, honesty, up-to-date, believability, balance, accuracy, and timeliness). Respondents rated items on a five-point strongly agree to strongly disagree scale, with neutral as the midpoint. Respondents were asked, "I'd like to know what you think about [newspapers, television news, or online news] as a source of news and information. I'm going to mention some descriptive words … and, after I read each word, please tell me whether the word describes your feelings. Give me your answer in terms of whether you strongly agree, agree, disagree, strongly disagree, or whether you are neutral. Do you think [newspapers, television news, or online news] is …".

For each of the three credibility scales, a summated mean was computed and the scales were analyzed for similarities and differences. Scales were factor analyzed to determine underlying dimensions of each scale utilizing a 1.0 eigenvalue factoring criterion, the Varimax rotation, and the principal component analysis extraction method.

FINDINGS

Females were over-represented and minorities were under-represented, but not so severely as to indicate serious problems in sample representativeness. The sample was 54% female (n = 291), 9% Hispanic (n =46), and 11% African-American (n = 56). The median age was 45.0. About four-fifths of the respondents had either a high school degree (n = 170), some college education (n = 131), or a college degree (n = 119). The median annual family income category was $50,001 to $75,000.

Use habits varied across news media, but television is the primary source of information among respondents in this study. Respondents read newspapers a mean of 3.76 days per week (n= 535, median = 3.0) and watched television news a mean of 5.11 days per week (n = 532, median = 7.0). Online news use was measured three ways: (a) in terms of days of access of news sites on the Web (n = 312; Mean = 1.65; Median = 0.00); (b) days of access of Internet Service Provider (n = 281; Mean = 1.03; Median = 0.00); and (c) days of access to a Web portal site (n = 275; Mean = 0.98; Median = 0.00). The Cronbach alpha reliability coefficient of newspaper credibility scale was 0.81 (n=399). The Cronbach alpha for the television credibility scale was 0.84 (n=447). The alpha for the online news credibility scale was 0.82 (n=145). As shown in Table 1, the type of news preferred varied by news medium used. Newspaper readers and television viewers prefer local and national news, while online news users preferred national and international news and very few used online news sources for local information.

Internet users were, by far, most interested in international news. Among online news users, 25 percent chose international news as the type of news they "read most often," as opposed to 8.5 percent of television viewers and 6.1 of newspaper readers. This finding seems to relate to the nature of the Internet as a medium that transcends borders and time zones. It also has the potential to be explained by an acculturation process of Internet users (who are usually more educated), which makes them more aware of, more interested in, and/or more receptive to, international news. In this regard, the Internet could be serving as an eye-opener to its users, at least in the sense of making them aware of a wider range and a more diverse news menu available to them.

Overall, respondents rated online news highest in credibility. Data in Table 2 indicate that online users rated online news more positively. The online users scale grand mean was 7.01 (SD = 5.14, n = 145), while television users rated television credibility at 4.85 (SD = 5.85, n = 447), and newspaper users rated newspaper credibility at 4.26 (SD = 5.44, n = 399). The scores should be understood as reflecting only individuals who were self-described users of the media evaluated. This means that television news users who did not use online news did not evaluate online news. Thus, some respondents offered perceptions of only one news medium, some offered perceptions of two news media, and the smallest number evaluated all three news media.

Newspaper readers rated newspapers highest on three variables directly associated with their timeliness (current 1.03, up-to-date 0.97, and timely 0.86) while they rated newspapers lowest in terms of bias (-0.60) and completeness (-0.15). Television viewers responded similarly, rating television news highest for timeliness (current 1.08, up-to-date 1.01, and timely 1.00). They also perceived television to be weakest in terms of bias

(-0.44) and reporting the whole story (-.019). Online news users see their news source similarly, but with a more positive perspective. Online news users feel the same about the strengths of online news and its timeliness (current 1.11, up-to-date 1.07, and timely 1.09), and about the weakness of bias (0.01) and completeness (0.18).

Factor analysis of the newspaper credibility scale resulted in a three-factor solution emphasizing balance, honesty, and currency of information that accounted for 56.0% of variance. Factor analysis of the television credibility scale resulted in a two-factor solution emphasizing fairness and currency, which accounted for 53.1% of variance. Factor analysis of the online news credibility scale resulted in a three-factor solution focused upon trustworthiness, currency, and bias that accounted for 60.0% of variance.

Table 3 displays the newspaper credibility factor analysis. The three factor solution reveals distinct dimensions to credibility focusing on balance, honesty, and currency. The balance factor is anchored by balance (.767) and report the whole story (.732). Objectivity, fairness, accuracy, and bias also load on the factor. Honesty is the second component, made up of dishonest (.812), believable, and trustworthy. Currency, the third factor, is built around up-to-date (.781), current (.765), and timely (.749).

As shown in Table 4, the television news credibility factor analysis emphasizes fairness and currency. The dominant factor centers on fairness (.819). Other strong-loading scale items are balance (.738), trustworthy (.719), accurate (.701), and objective (.701). The remaining items in the factor were report the whole story, believable, biased, and dishonest. The second factor is similar to the currency factor in newspapers, but the strongest-loaded item was current (.808), but also had up-to-date (.798) and timely (.769) also strongly loaded. This certainly relates to literature about television news credibility that suggests credibility is more individually than institutionally oriented Newhagen and Nass (1987).

The online news credibility factor analysis in Table 5 has three primary dimensions: trustworthiness, timeliness, and bias. Trustworthy is the highest loaded item for the seven-item factor one (.783), but believable (.750) and accurate (.727) were also strong. Other items for this factor included report the whole story, balanced, fair, and dishonest. Factor two, currency, is similar to the factors found for newspapers and television news. For each of the three factor solutions, currency was composed of the same items. Timely (.898) is the dominant item, but current (.867) and up-to-date (.772) also load well. The bias factor in this scale, not apparent in the newspaper or television news factor solutions, points to an interesting difference in this solution when compared to the other two. Biased (.846) and objective (.592) form this two-item factor, but suggest important perceived differences by users of online news compared to newspapers and television news.

DISCUSSION

Media credibility is a complex concept. Researchers have used a wide range of approaches to evaluate it and to understand its components. The addition of online news to the list of sources of information available to the public has led to concerns about its credibility as well as its perception by the public as a news source in relation to established and more traditional news sources. As access and availability of online news grows, the concern for quality of information found online will also increase. News consumers concerned about sources of information and its trustworthiness, believability, currency, and other characteristics will demand and seek sources of news that are reliable and credible.

Even when individual credibility dimensions by news medium are standardized, it is apparent that researchers who wish to compare across media will still need some form of compromise in selecting their dimensions for analysis.

This study has revealed differences in how Americans perceived the credibility of newspapers, television news, and online news in early 2002. In the post-September 11 world, it is highly likely that news consumers are quite interested in news that is not just up to standards prior to the September 11 terrorist attacks, but perhaps seek news that exceeds them. While this study does not assess this, it may be a factor in respondents' assessments of the credibility of newspapers, television news, and online news.

The dimension of currency, timeliness, and up-to-date remain important in the credibility of all three news media studied. For newspapers, the dominant aspect of currency is that it is perceived to be up-to-date. Television news is thought to be current, but also up-to-date and timely. Online news is seen to be timely, but also current and up-to-date. These subtle differences suggest further research to determine their importance.

Newspaper credibility is seen to be based in balance, honesty, and currency. But newspapers, to offer credibility, must be perceived to be balanced in story telling, complete in providing information, objective and fair, accurate, and unbiased. They must also be honest in their presentation of news, be believable, and trustworthy. Television news credibility is anchored in fairness, respondents have shown. Viewers want news that is fair and balanced, but also see trustworthiness, accuracy, objectivity, completeness, believability, unbiased, and honesty as elements of fairness. Online news credibility is built upon trustworthiness, these respondents feel. For online news to be credible, it must be trustworthy and believable. It must also be accurate, complete, balanced and fair, and honest.

Perhaps the most interesting element of online news credibility, however, is the apparent concern for bias expressed by online news users. The existence of a separate factor for bias and objectivity suggests a strong concern for this component of credibility of online news and reflects, perhaps, experiences by online users that have led to biased and less-than-objective reports at online news sites.

This could be due to the relative difficulty of assessing the objectivity, or biases, of Web-based news when compared to a newspaper's content of that a television newscast. Internet users are aware of the ease of uploading a page on the Web, and with a little design experience, making it look like output of a well-established or professional organization. This seems to underline the importance of branding in online news. Readily identifiable news organizations that have moved to a Web presence or Web sites that use existing and know news brands (such as the Associated Press or other news services) have this advantage over news sites that are only on the Web and do not offer branded news.

Readers understand that editing and other forms of editorial screening occur in newspaper and television newsrooms. While it is easy to find out who publishes or edits a newspaper or holds the license and edits a television newscast, it is much harder sometimes to determine who publishes a Website. This might be a factor that leads to more concern among online news users regarding the objectivity, or lack thereof, of an online news site, and consequently, its overall credibility.

There is clearly need for additional analysis of these three credibility scales and public perceptions of the performance of newspapers, television news, and online news. Furthermore, it would have been valuable, for example, to have asked respondents about the credibility of newspapers, television, and online news simultaneously. It is clear from the data that asking only regular users about a particular medium gives only one perspective upon this complex issue. A side-by-side-by-side comparison of newspapers, television, and online news may yield insights into non-users and their views of each of the three news media relative to each other.

This exploratory analysis has set the ground work for additional investigation. Further analysis based on demographic characteristics of respondents is needed. These should include news consumption preferences, gender, high and low level users, computer literacy levels, online access, education, race and ethnicity, and income. It would also be valuable to analyze only individuals who responded to each of the three scales to determine their comparative ratings of newspapers, television news, and online news. There is additional need to determine reasons why fewer people use online news. Is it solely an access-to-the-Internet issue or is it access combined with perceptions of lower online news credibility? In-depth analysis of non-users may provide insight needed to better understand the findings presented in this study.

TABLE 1

TYPE OF NEWS MOST READ AND NEWS MEDIA USED

Type of news	Newspaper Users	Television Users	Online Users
Local	53.3%	43.4%	13.8%
National	26.4	31.8	49.3
International	6.1	8.5	25.0
Local-National	5.0	6.8	2.0
Local-International	0.7	1.0	0.7
National-International	1.9	2.3	7.9
All	6.6	6.2	1.3
n	424	484	152

TABLE 2

PERCEIVED NEWS CREDIBILITY BY MEDIUM

Title	Newspapers		Television		Online	
	Mean	SD	Mean	SD	Mean	SD
Trustworthy	0.51	0.88	0.51	0.94	0.70	0.74
Current	1.03	0.68	1.08	0.57	1.11	0.68
Biased	-0.60	0.95	-0.44	1.02	0.01	0.89
Fair	0.22	0.91	0.34	0.90	0.52	0.76
Report the whole story	-0.15	1.03	-0.19	1.04	0.18	0.98
Objective	0.25	0.95	0.19	0.97	0.43	0.81
Dishonest	0.44	0.88	0.43	0.87	0.57	0.79
Up-to-date	0.97	0.57	1.03	0.57	1.07	0.62
Believable	0.62	0.72	0.67	0.75	0.75	0.66
Balanced	0.17	0.95	0.20	0.98	0.41	0.89
Accurate	0.34	0.89	0.43	0.85	0.65	0.72
Timely	0.86	0.64	1.00	0.56	1.09	0.61
Summated mean	4.27	5.45	4.85	5.85	7.01	5.14

TABLE 3

NEWSPAPER CREDIBILITY FACTOR ANALYSIS

Factor	Balance	Honesty	Currency
BALANCE			
Balanced	**.767**	.103	.035
Report the whole story	**.732**	.090	.231
Objective	**.669**	.110	.122
Fair	**.598**	.430	.019
Accurate	**.575**	.410	.139
Biased	**.403**	.365	-.264
HONESTY			
Dishonest	.031	**.812**	.039
Believable	.224	**.665**	.224
Trustworthy	.413	**.632**	.175
CURRENCY			
Up-to-date	.115	.128	**.781**
Current	.060	.069	**.765**
Timely	.129	.084	**.749**

TABLE 4

TELEVISION CREDIBILITY FACTOR ANALYSIS

Factor	Fairness	Currency
FAIRNESS		
Fair	**.819**	.074
Balanced	**.738**	.037
Trustworthy	**.719**	.238
Accurate	**.701**	.285
Objective	**.701**	.033
Report the whole story	**.676**	.150
Believable	**.621**	.300
Biased	**.563**	-.208
Dishonest	**.456**	.277
CURRENCY		
Current	.073	**.808**
Up-to-date	.121	**.798**
Timely	.111	**.769**

TABLE 5

ONLINE CREDIBILITY FACTOR ANALYSIS

Factor	Trustworthiness	Timeliness	Bias
TRUSTWORTHINESS			
Trustworthy	**.783**	.255	-.019
Believable	**.750**	.185	.015
Accurate	**.727**	.164	.125
Report the Whole Story	**.684**	.106	.032
Balanced	**.623**	-.068	.486
Fair	**.595**	-.051	.373
Dishonest	**.337**	.180	.046
CURRENCY			
Timely	.148	**.898**	.024
Current	.221	**.867**	-.065
Up-to-Date	.121	**.772**	.125
BIAS			
Biased	-.062	.062	**.846**
Objective	.482	.191	**.592**

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An Ideological Battle between Journalistic Values and Corporate Interests on the Information Superhighway:
NBC News' Web Coverage of a GE-related Incident

by

Tien-tsung Lee, Ph.D.
Assistant Professor
Edward R. Murrow School of Communication
Washington State University
Pullman, WA 99164-2520
Phone: (509) 335-0113
Fax: (509) 335-1555
E-mail: ttlee@wsu.edu

and

Kuang-Kuo Chang
Doctoral Candidate
Mass Media Ph.D. Program
305 Communication Arts & Sciences
Michigan State University
East Lansing, MI 48824
Phone: (517) 410-2614
E-mail: changku2@pilot.msu.edu

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An Ideological Battle between Journalistic Values and Corporate Interests on the Information Superhighway: NBC News' Web Coverage of a GE-related Incident

Abstract

The impact of media mergers, or the concentration of media ownership, has been a popular subject in mass communication research. Some observers argue one of the implications of the increase of corporate ownership is that news organizations may lose their autonomy and objectivity while covering their parent corporations. The present research hypothesizes that journalistic professionalism may be able to overcome such pressure. The coverage of an accident involving GE -- which owns NBC -- on the websites of eight major U.S. news organizations, was analyzed. The findings suggest a slight possibility of bias on MSNBC's site. However, no convincing conclusion can be made.

An Ideological Battle between Journalistic Values and Corporate Interests on the Information Superhighway:
NBC News' Web Coverage of a GE-related Incident

Popular press and media scholars have intensively studied the impact of media ownership concentration on media content, and, at least indirectly, on democracy. The basic rationale for such inquiries is the diversity of informational sources is crucial for the public to be well informed and make rational decisions (Altschull 1995; McChesney, 1997; Parenti, 1995).

A number of critics, such as Bagdikian (2000) and Underwood (1995), argue that the trend toward concentration of media ownership will continue. They believe the quality of news suffers because the interests of corporate owners and advertisers are placed above those of readers and viewers. Accordingly to these observers, news has become a product that competes with other forms of entertainment in the media. Basically, these critics argue that the capitalistic ideology, which is the force behind both ownership concentration and its sequential impact on media content, has a negative effect on society.

On the other hand, journalists are expected to honor a traditional ideology of the profession: defending their professionalism and serving only the interests of their audience rather than the parent corporations of their news organizations. Such news values are upheld and enforced by journalism educators and organizations (Knowlton & Parsons, 1994; Mencher, 2000; Merrill, 1997). If this view is correct, corporate ownership would not negatively affect media content.

A third viewpoint regarding this debate is represented by Demers and colleague (1995, 1998; Demers & Merskin, 2000) who theorize that the quality of news would not suffer under corporate ownership because large corporations have to adopt a system of highly specialized divisions of labor. News production, according to them, is under the stewardship of professional managers rather than corporate owners or publishers.

All three of these viewpoints above are valid and supported by convincing evidence. As to be reviewed later in the present study, a number of researchers have examined such a "battle" between two ideologies --corporate interests (as driven by capitalism) and journalistic values -- by comparing news content of independent and chain-owned newspapers (e.g., Busterna & Hansen, 1990). Others have surveyed journalists in these two types of news organizations (e.g., Demers, 1995). The shared focus of these two approaches is the production, in terms of quality or bias, of news stories and editorials.

With the exception of a few cases reported in media ethics textbooks (e.g., Goodwin & Smith, 1994), academic researchers have not extensively explored a crucial aspect of this "battle." The aspect in question is whether media content is affected when the coverage focus is the merchandise and services offered by the corporate parent of a news outlet. In other words, will news organizations report their parent corporations objectively? Or will they exercise self-censorship to avoid negative reports of their corporate owners?

On a slightly different note, the usage of the Internet as a news source has been increasing. As to be reviewed in the next section, more people rely on the Internet as their major source of news information, while reliance on traditional news media such as local and national television newscast has been diminishing (Pew Center, 2000a), at least before the September 11, 2001 attacks. Therefore, it is important to include news websites in the examination of corporate ownership's impact on news content.

The present paper is a case study of how the NBC news website covered a recent plane crash of which GE (NBC's corporate parent) engines were suspected of being a factor. This crash received much more attention than other similar accidents because this country had just witnessed four aircraft being used as weapons for massive terrorist attacks that killed several thousand people. This incident immediately became headline news in all media in the U.S.

Specifically, the NBC news website was examined to investigate whether and how NBC reported the factor of GE engines in the disaster. Competitors' websites, such as those of ABC, CBS and Fox news, and CNN, were analyzed for comparison. The goal of the present study is to investigate whether ownership may have influenced how a prominent news organization reported a story related to its corporate owner on this organization's news website.

Literature Review

Definition of Ideology

On the level of individuals, an ideology is a belief system or device that helps people interpret, rationalize, and decide how to behave (Converse, 1964; Hinich & Munger, 1994). As cited by Shoemaker and Reese (1996), Becker (1984: 69) defines ideology as "an integrated set of frames of reference through which each of us sees the world and to which all of us adjust our actions."

On the societal and national level, ideologies govern how various groups of people interact with each, and how the majority of citizens feel the government and society should work. In the United States, dominant ideologies include "a capitalistic economic system, private ownership, pursuit of profit by self-interest entrepreneurs, and free markets" (Shoemaker & Reese, 1996: 222).

It can be argued that journalistic professionalism is a prominent ideology among journalists. Although it may be an ideal that is hard to perfect, this belief advocates that journalism should serve the public by providing objective and unbiased information. This ideology is promoted by journalism educators and organizations, and widely accepted by media professionals (Knowlton & Parsons, 1994; Mencher, 2000; Merrill 1997; Weaver & Wilhoit, 1996).

Forces behind News Production

Various forces influence news production. In the 1950s Warren Breed (1952/1980) generated a list of factors influencing news content. A number of scholars have revisited and modified Breed's findings, most by participant observations of the news gathering process as Breed did (e.g., Epstein, 1973; Fishman, 1980; Gans, 1979; & Tuchman. 1978). Breed's list includes: 1) the structure of society; 2) publishers who set a policy; 3) editors who carry out the policy; 4) conformity of staffers who sense the policy; 5) policy that is possibly modified by staffers; 6) opinion leadership consideration by editors; 7) competition and cooperation among reporters; 8) news techniques of reporters; 9) the nature of news; 10) reporters' decisions on how to present serious and complex events; 11) traditions of "newspapering"; 12) outside pressures; 13) the community that supports the newspaper; and 14) the beat and source.

Schudson (1997) and McQuail (1994) offer a simpler two-item categorization by summarizing studies with methods including political economy and cultural studies: ideological hegemony and standardization of newsgathering. Herman & Chomsky (1988) identified five "filters" that are similar to Breed's list: 1) the media organization's size, ownership, and profit; 2) dependency on advertising; 3) reliance on government and corporate sources for information; 4) pressure from government and businesses; and 5) the dominant ideology (in their case, anti-communism).

Shoemaker and Reese (1996) summarized previous research and provided a comprehensive list of factors: individual media workers, media routines (how journalists work), organization (newsroom and ownership control), extra-media influences (e.g., politicians and advertisers), and ideology (of the community, society, or country).

The focus of the present study is the influence on news content by corporate ownership and journalists' professionalism. Therefore, a closer examination of both factors is in order.

Concentration of Media Ownership and Its Impact

The concentration of media ownership in the United States has been growing and is expected to continue. More and more media organizations have become subsidiaries of conglomerates (Bagdikian, 2000; Bogart, 1995; Compaine & Gomery, 2000; Woodhull & Snyder, 1998). The major force behind this phenomenon is the ideology of capitalism because such concentration will reduce both cost and competition, which will result in more profits.

It is natural for media researchers to probe the implications of such a phenomenon in search of potential conflicts of interest. For instance, they examine whether news media under certain circumstances are less likely to serve the public's interests (e.g., criticizing the parent corporations and fellow subsidiaries for wrong-doings, or promoting owners' political ideology and bias, and limiting the representation of alternative viewpoints) (Bagdikian, 2000; McChesney, 1997; Parenti, 1995; Warren, 1989).

Simply put, the question is whether chain-or corporate-ownership has made a difference in news content; and if so, whether the change is positive or negative. A specific research question that a few media scholars have asked is whether ownership change (from independent to chain, as well as from private to public) would make a difference in media content and professional satisfaction and autonomy among journalists. The types of media organizations examined by these researchers include newspapers, public television and the music industry, although the majority focused on chain-owned newspapers (e.g., Blankenburg and Ozanich, 1993; Burnett, 1992; Lacy, Shaver, & St. Cyr, 1996; Lashley, 1992; Demers, 1995).

The consensus of a number of these studies is chain-ownership may slightly, but not negatively, affect news production. For example, Lacy (1991) discovered that group-owned newspapers have different practices on editorial space use and the news hole compared with their independent counterparts, but such ownership has no effect on news space allocation. Busterna and his colleagues (1990, 1991) found no significant difference in terms of resources between independent and group-owned newspapers. They also argued that chain-owned newspapers were not more likely to endorse Republican presidential candidates than independents. In addition, Akhavan-Majid and her colleagues (1991, 1995) found that editors in chain-owned newspapers, especially in those with larger circulations, are more likely to have perceptions of an activist role. They also found that chain-owned newspapers are more likely to take positions on policy issues in their editorials than independent newspapers.

In terms of journalistic autonomy, Matthews (1996) reported that publishers in publicly owned chain newspapers have less autonomy in terms of staffing and significant content changes than their counterparts in privately owned chain newspapers. Also, according to Matthews (1996), the publishers in publicly owned newspapers are under greater pressure to generate revenues. On the other hand, Demers's series of studies (1995, 1998, 1999) reported no negative effect of corporate ownership in terms of journalistic autonomy or editorial page vigor.

The reason behind the concern of the impact of media ownership is that the news media could be pressured by their parent companies to put corporate interests above the public's. In other words, journalistic autonomy and values could be sacrificed. This argument is supported by the findings of Blankenburg & Ozanich (1993) and Lacy, Shaver, & St. Cyr (1996) that publicly owned newspapers are under greater financial pressure than their privately owned counterparts.

Even if conflicts of interest were not a problem, if media ownership concentration led to a decrease in the diversity of ideas, democracy would be undermined because media have a great impact on society (Bagdikian, 2000; McCombs, 1987; Croteau & Hoynes, 1994).

A deeper layer of this debate, as pointed out by Murdock (1982), concerns allocative versus operational control by corporation owners: whether these owners only allocate resources within the conglomerates and let professionals run the media, or whether they themselves actually are involved in day-to-day operations. Murdock and a number of critical scholars, such as Bagdikian (2000) and McChesney (1997), seem to lean toward the view that corporate ownerships have a direct and negative impact on news content, and an indirect impact on democracy. Their reason is that corporate owners tend to exercise direct operational control of news media subsidiaries and run such organizations as a profit-maximizing business. For example, one of Underwood's influential studies is titled *When MBAs Rule the Newsroom* (1995), which clearly suggests operational control and a profit-driven management.

On the other hand, Demers' "managerial revolution hypothesis" advocates the opposite: the control of corporate organizations has been shifting from the owners, or capitalists, to professional managers and highly skilled technocrats. Demers and Merskin (2000) argued that the more diversified and corporatized a newspaper ownership structure is, the less likely owners and publishers will make decisions that affect editorial content. Instead, editors and reporters make such decisions.

If we examine corporate management in terms of whether high ranking executives directly control the content of their media products, some anecdotal evidence in popular press provides mixed results. However, news has been considered a "product" (instead of a sacred object as in the past) in some corporate-owned news media (Bogart, 1992; Bruck, 1994).

Occupational Ideologies and Craft Values in Journalism

As mentioned before, an ideology is a belief system or device that helps people interpret, rationalize, and decide how to behave (Becker, 1984; Converse, 1964; Hinich & Munger 1994). There are a few key concepts or ideologies that are taught in every journalism classroom and upheld in every newsroom in this country: objectivity, accuracy, fairness, and serving the interest of only the public/audience, which are called the journalist's "moral compass" (Knowlton & Parsons, 1994; Merrill, 1997; Weaver & Wilhoit, 1996). Journalists also value the freedom and autonomy to decide what news is and how to report it. They see themselves as the guardian of "the public's right to know" (Goodwin & Smith, 1994). Journalists see the freedom to report news of their choosing -- regardless of pressure from the government and other players in society -- as critical to protect democracy. They also see credibility (as perceived by the audience) as an essential requirement to maintain respect and freedom (Merrill, 1974).

There are various situations where audience respect and trust of journalists are in jeopardy, such as when these journalists' ethics and objectivity are questioned. Therefore, actions such as receiving gifts from a news source, or participating in a political rally, are advised against by professional codes, guidelines and textbooks of journalistic ethics (Black, Steele, & Barney, 1999; Goodwin & Smith, 1994).

In sum, the occupational ideologies of objectivity and autonomy have been crucial in the profession of journalism. As a result, one can expect that journalists are not likely to allow corporate owners to dictate what stories to report and how to report them. They are also more likely to believe their job is to serve the interest of readers and viewers rather than those of their corporate parents.

There is another angle to analyze this objectivity versus corporate interest argument. Although Altschull (1995) contends that the content of the press "is directly correlated with the interests of those who finance the press," Shoemaker and Reese

(1996) have pointed out that maintaining objectivity is a way for news organizations to attract and maintain readers in order to make a profit.

Some researchers are not convinced that, in reality, objectivity and professionalism exist. For example, based on a survey of journalists in five countries, Patterson and Donsbach (1996) state that journalists' personal beliefs, such as partisanship, are significantly correlated with their news decisions. Some other critics would go so far as to argue that objectivity is an illusion and the news media only support the conservative and capitalistic status quo. From their point of view, the news media are propaganda machines that only serve the interest of the government and big corporations (Altschull, 1995; Parenti, 1995; Cohen & Solomon, 1993; Croteau & Hoynes, 1994; Herman & Chomsky, 1988).

The Ideology of Capitalism and Its Impact on How News Media are Run

Although Shoemaker and Reese (1996) identified five layers or levels of influences on news content, the present authors argue that the ideology of capitalism works in all layers.

Extra-media sources of influences, or "external constraints," include commercial or economic (competing for audience and maximization of profit) and political (governmental reviews and regulations) factors. One reason why media organizations receive pressure from advertisers is the profit-driven nature of news organizations. Such nature is capitalistic.

Another two layers of influence, "media routines" and "organizational" -- both of which can be considered "internal constraints" -- include ownership and newsroom control (e.g., norms and values within an organization), professionalism (such as the notion of objectivity), and routinization of news-gathering (Breed, 1955; Tuchman, 1978; Hirsch, 1977; Gallagher, 1982; Murdock, 1982; Shoemaker & Reese, 1996).

If news production is influenced by ownership at all, the interest of a corporate owner could play a role, either by direct pressure from the corporate headquarters or self-censorship in the newsroom. Interests of corporate ownerships are likely to be profit-oriented, which is capitalistic. In addition, because most reporters come from the middle class of society, they are likely to support dominant ideologies or so-called "enduring values" (Gans, 1979). Because this society's dominant ideology is capitalistic, at the individual level of influences on news content, journalists are likely to be subscribers of capitalism.

By definition, the ultimate goal of any corporation in a capitalistic system is to maximize profits. Mergers between corporations are an effective approach to profit maximizing because they reduce personnel costs in operation as well as competition in the market. Therefore, one potential effect of capitalism on mass media is the concentration of ownership. Another potential effect of the capitalistic ideology on mass media is the treatment of news as a commodity for consumption just like any other products.

One may theorize that in a large corporation where news is only one of many products and services to be sold and consumed, the status and integrity of the news division could suffer because the parent company may have other priorities.

As Goodwin and Smith (1994) pointed out, news staff may have to write about "the other financial interests" of their corporate owners. One example they provided was the *Chicago Tribune*'s attempt to persuade the public that the Chicago Cubs baseball team, which is owned by the Tribune Company, would not be favored over the Chicago White Sox in its news coverage.

A recent incident reported in the news clearly illustrates the relationship between journalists, news organization and capitalism. ABC's *Nightline*, a popular and well-respected news program, has occupied the same late-night time slot for over two decades. Both the *New York Times* (3 March 2002, C1) and *Los Angeles Times* (2 March 2002, A1) reported that Disney, ABC's parent corporation, has tried to lure David Letterman, a late night talk show comedian, from *CBS* to *ABC*. If successful, the Letterman show would replace *Nightline*. According to the two reports, as well as a letter by Nightline's anchor and managing editor Ted Koppel published in the *New York Times* (5 March 2002, A23), Disney made this attempt because Letterman's show attracts a younger audience and therefore would bring in more advertising revenue for the network.

The 22-year old *Nightline* is a news media institution in this country. Its potential replacement suggests how a prominent organization values profit above journalism. This also implies that capitalism is a critical force behind how news organizations are treated and run by their corporate parents. Even Koppel, who apparently does not like this treatment, acknowledges in his letter that such treatment is "perfectly understandable" because of the nature of commercial television. He states that it is reasonable for the Walt Disney Company to meet "its obligation to investors" by trying to "increase its earning" by attempting to replace *Nightline* with a "more profitable" show. This is a perfect example of how individual journalists support the ideology of capitalism in terms of how media organizations should work.

Internet as A News Source

There is no doubt that the Internet has become a major source of information, including news (Stempel, Hargrove, & Bernt, 2000). According to a national survey conducted by the Pew Center for the People and the Press (2000a), the use of traditional media such as local and national television news broadcasts has declined, while the use of Internet for the same information has increased. In general, the Internet is seen as a slightly more credible news source than traditional media (Johnson & Kay, 1998).

One possible reason for the Internet's popularity, especially for political campaign information, is its convenience (Pew Center, 2000b). With the exception of 24-hour news channels such as CNN Headline News, viewers have to turn on their TV sets at a certain time in order to watch particular news programs. In comparison, they can read any news at any time they want on the Internet. Even sources like CNN Headline News have constraints. Viewers do not get to pick what news stories to watch, and have to receive news stories in the order broadcast. By contrast, Internet users can choose from a variety of news sites, and select only news stories that interest them from a large list of links.

It is only reasonable to predict that the Internet's importance and popularity as a news source, partially due to its convenience, will continue to grow.

Background Information about GE and NBC

The NBC network was owned by RCA when General Electric (GE) acquired RCA between late 1985 and early 1986. NBC officially became a GE subsidiary in 1986 (*Washington Post*, 11 Dec. 1985, A1; *Christian Science Monitor*, 6 June 1986, 2). The acquisition of NBC by GE, a major defense contractor, drew the attention of Congress in 1987. Rep. Edward Markey's subcommittee on telecommunication ordered an investigation to examine the impact of ownership change of TV networks. Markey's reason was "They are unique because they are the primary information providers to the American people" (*Boston Globe*, 5 May 1987, 18).

Following the ownership change, GE ordered some personnel reduction in NBC and its news division (*New York Times*, 9 June 1987, C18).

In July that year, NBC News missed an important economic story about GE's plan to sell its electronics business. According to a story in the *New York Times* (24 July 1987, C33), this incident was a popular topic among "many of the network's striking newsroom workers." This story did not report the reason for the strike that involved 2,800 workers. However, it did state that the striking employees believed that the network could miss such an important story "only because its makeshift staff was stretched to the limit."

Reportedly GE had a "tightfisted management" that was "clamping more controls on the network." News bureaus were closed and key news personnel were lost as a result (*Los Angeles Times*, 29 June 1991, 1).

As early as 1986, right after GE acquired NBC, (*Los Angeles Times*, 27 August 1986, 6-1), GE extended its "hands off" policy regarding the news divisions in its broadcast operations to NBC. In other words, NBC News was promised its independence, including its coverage of GE.

According to Goodwin and Smith (1994), the then-NBC News President, Lawrence Grossman, received pressure from GE about reporting a drop in the stock market, which could affect GE's stock value. A story in the *Washington Post* (5 Nov. 1991, D3) reported the same incident. Grossman recalled that a day after the Wall Street plunge in 1987, the GE chairman angrily complained to Grossman about NBC's reports on the stock market. Grossman stated that he resisted the pressure and did not act upon the complaint.

In 1988, NBC denied favoring GE in its reports on GE's "indictment on charges of trying to defraud the Pentagon." In response to whether GE received special treatment in its coverage of the incident, the NBC News vice president insisted that "Never would we ever do that, nor would they expect it" (*Los Angeles Times*, 1 Dec. 1988, part 6, p12).

NBC has denied similar allegations a few more times. In 1989 an NBC-owned station in Chicago produced a report about "the use of bogus and substandard materials in American Industry." Three sentences critical of GE's airplane engines were deleted when the report was aired on NBC's *Today* show. NBC News officials stated that this decision had nothing to do with GE but because the reporter "didn't journalistically cover all his bases" (*Washington Post*, 2 Dec. 1989, C1; *The New York Times*, 3 Dec. 1989, sec.1, part.1, p.42). In 1992, an activist said that NBC's *Today* show cancelled her appearance because her new book criticized GE. The executive producer of *Today* declined to comment. An unidentified source explained the cancellation was "because of concerns about her credibility" instead of GE (*Los Angeles Times*, 6 April 1992, F2).

Although there are quite a few anecdotal news reports, surprisingly the present authors could not locate any article in academic journals concerning the relationship between GE and NBC. One of the purposes of the present study is to fill that void.

Research Questions

To sum up the literature review, in a large corporation that owns news organizations where the pressure to protect commercial interests may be stronger (than in a smaller corporation or an independent media organization) because it is serving the interest of a great number of stockholders, journalistic autonomy and value may sometimes take a back seat. One possible result of such a phenomenon is that the news division would be pressured to show favoritism toward the parent corporation. However, if such a case arises, because of the strong ideology of professionalism, journalists may choose to stand up for their integrity and protect their autonomy. This is why the present study theorizes that there is a "race" or "battle" between the ideologies of capitalism and journalistic professionalism.

The underlying research question of the present study is, whether a news organization's report of its parent corporation shows any indication of self-censorship to avoid negative coverage. The specific research question is whether NBC's news website covered an incident – regarding whether GE's engines were a suspect factor – differently from, or more positively than, the websites of other major news organizations.

Method

An American Airlines Airbus A300 crashed in Queens, New York City in mid-November, 2001. The news websites of major U.S. news organizations were examined to study whether each site's news coverage made any reference to General Electric, which manufactured the engines used by the airplane. This incident received much media attention partially because of how close it was in time and proximity to the terrorist aircraft crashes on September 11, 2001.

The Airbus crash happened on November 12, 2001. On November 13, 2001 the websites of the following news organizations were visited within a period of about three hours: Time, Newsweek, the New York Times (NY Times), the Los Angeles Times (LA Times), CNN, ABC News, CBS News, NBC News, and Fox News. The attempts to visit NBC News' and Newsweek's sites were automatically transferred to the MSNBC homepage. Therefore, only eight sites were studied and analyzed.

Because of the small number of websites, no quantitative analysis was employed because no statistical test would be appropriate. Instead, an in-depth reading similar to qualitative textual analysis was the chosen approach. In other words, the present study is a qualitative framing analysis. Framing provides the context of meanings within which a complex issue can be simplified and understood by the audience (Entman, 1993; Pan & Kosicki, 1993; Scheufele, 1999). In other words, journalists organize stories in ways that provide meaning to news events for their readers and viewers (Andsager, 2000: 579). Specifically, framing occurs "as journalists select some aspect of perceived reality and make it more important in their news story by promoting a particular problem, causal interpretation, or treatment recommendation" (Powers & Andsager, 1999: 553).

This approach in which recurring framing themes are identified and summarized has been used in a number of studies analyzing news content (e.g., Danner & Walsh, 1999; Hindman, 1999; Luther, 2002; Watkins, 2001). What is missing is also a critical element to be studied.

The in-depth reading of each website focused on: 1) whether the plane's engines were mentioned but not their manufacturer; 2) whether the engines' manufacturer, GE, was identified; 3) whether GE engines were identified as a potential cause of the crash; 4) whether alternative theories (other than GE engines) about the cause of the crash were reported; 5) whether previous accidents related to GE engines were reported; 6) if previous accidents involving GE engines were reported, how seriously such incidents were described. Basically, the present study investigates whether and how GE engines were framed as a potential cause for the crash.

The abstracts of newscasts of ABC, CBS, NBC and CNN from November 12 to 15, 2001 on the Vanderbilt Television News Archive (http://tvnews.vanderbilt.edu) were also analyzed and no mention of GE was found. This was another reason the present authors decided to study news websites instead of television newscasts.

The reason for analyzing only websites on November 13, 2001 is that on November 12 all the reports were limited and only dealt with what had just happened. And by November 15, the possibility of GE engines as a potential cause had been ruled out. The present authors were interested in whether NBC avoided discussing GE engines as a potential reason for the crash while other news sites would not shy away from such speculation.

Findings

Table 1 summarizes the items for examination listed above. Among the eight websites, only FOX News did not make any reference to any engine or GE at all.

[Table 1 about here]

All seven other websites mentioned previous incidents involving GE engines in their coverage. Such inclusion suggested that GE engines could be a cause for this accident. However, among the seven sites, some of them made a stronger suggestion than others by focusing more on GE engines in their stories. This will be discussed later. Only two sites did not report previous government investigations of GE engines: ABC and FOX.

Shifting the blame?

Only MSNBC and CNN reported previous Airbus A300 accidents. MSNBC was the only site that provided detailed information about the engines used on Airbus 300 aircrafts: "The A300 used General Electric CF 6-80 or Pratt & Whitney PW 4000 engines." In other words, MSNBC was the only site that pointed out that Airbus A300 also use engines made by another manufacturer.

Only two sites mentioned the "bird theory" (the accident may have been caused by engines sucking in birds): ABC and MSNBC. The major difference between the two sites is that ABC cited this theory (the source of the theory was identified: the *Wall Street Journal*) and rebutted it immediately, while MSNBC provided a link to a *Wall Street Journal* report that stressed the bird theory. There was no comment on the bird theory on MSNBC's own site.

Framing GE engines as a possible cause

Although seven out of eight news sites mentioned GE engines in their coverage, four of them made a stronger suggestion that GE engines were a likely factor. Time's website strongly suggested this factor. Its headline reads: "American Flight 587: Engine Concerns?" CNN also had a separate article with such a lead:

> Although it's too early to pinpoint any cause of the American Airlines crash Monday in New York, some investigators already are taking a close look at the plane's General Electric engines.

The NY Times story also focused on engines, and its headline was "Engine Failure Seen as Likely Cause of Jet's Sudden Destruction." However, the NY Times story also pointed out that those GE engines are popular. "They are used on Air Force One, among other planes."

ABC was the only site that clearly stated that GE engines were a possible cause for the accident. It gave the GE engine issue a prominent location: the fourth paragraph, which reads:

> One possibility is that one of the airplane's two General Electric CF6-80C2 engines, an engine model that has had a series of problems in recent years, failed shortly after takeoff.

Later in the ABC story there was a section entitled "History of Engine Trouble." The lead paragraph in that section reads:

> A series of at least three CF6-80C2 engine failures in 2000 lead the NTSB [National Transportation Safety Board] to recommend that the FAA step up inspections of the GE engine. The board said an apparent disintegration problem in the engines could cause a "catastrophic accident" if not addressed.

Similarly, the CNN report had a section with such a subheading: "Engines subject of federal scrutiny."

Other sites seem to be less interested in treating GE engines as a potential factor. CBS described the GE engines this way:

> There have been documented failures involving the family of CF6 General Electric engines on the plane, though none involved fatalities. The Federal Aviation Administration warned just last month that its own study of problems with these engines indicates a need for tougher, mandatory inspections of possibly worn parts.

The LA Times, CBS, and MSNBC sites used exactly the same wording as above. However, only the LA Times indicated that it used an Associated Press story. MSNBC credited its source this way: "NBC, MSNBC and News Services." As mentioned earlier, only two sites (ABC and FOX) did not reported previous government (FAA) investigations of problems with GE engines.

On both the LA Times and CBS sites, the paragraph following the one cited above reads:

> The NTSB warned separately less than a year ago that an in-flight failure of these engines could send hot fragments tearing through important control systems or fuel lines – and could cause a plane to crash.

MSNBC omitted this graphic paragraph discussing crashes. Instead, its paragraph following the FAA warning reads:

> In March, the FAA directed airlines to inspect such engines for possible cracks in turbine rotor discs. The cracks could cause the discs to fly apart and prompt engine failure, the FAA said. The alert was issued after the FAA received a report of an engine failure during a maintenance run on the ground.

Three sites (LA Times, CBS and MSNBC) reported that it was premature to consider GE engines a possible cause for the crash. A government official (from the National Transportation Safety Board) was cited:

> The NTSB's Black cautioned it was "way too early" to connect the crash with other failures involving the type of engine that powered the airplane. But he added: "We will be looking at that."

Both CBS and LA Times buried this quote in the text. In comparison, MSNBC placed a bold subheading -- "WAY TOO EARLY" -- before the cited paragraph above. This unique treatment suggested that MSNBC may have tried to downplay the likelihood of GE engines as a potential cause.

If each of the sites had to be put on a favorability scale in terms of their coverage of GE engines, ABC would be the most negative, followed by CNN. FOX would be the most positive because nothing about GE was reported. MSNBC would be among the most positive next to FOX.

Discussion and Conclusion

The findings of this study suggest that MSNBC reported the GE engine issue differently from, and at least slightly more positively than, other news sites, which answered the research question. MSNBC was the only site that appeared to direct the audience to the bird theory rather than potential engine failure. When Airbus information was provided, MSNBC was also the only site that pointed out that Airbus A300 also use engines by another manufacturer. It is reasonable to suspect that MSNBC was trying to shift the blame to other factors rather than treating GE engines as a potential cause for the November 12, 2001 crash.

Also, when the same AP story was adopted, in comparison to other sites (CBS and LA Times), MSNBC's site avoided associating such words as "hot fragments," "tearing" and "crash" with GE engines. Instead, it chose to use more neutral words such as "discs" and "cracks."

However, it is hard to argue that MSNBC performed obvious self-censorship or biased coverage favoring GE. First, its coverage did point out previous problems with GE engines. Second, FOX News, rather that MSNBC, was the only site that did not identify GE engines in this accident. In other words, MSNBC did not avoid mentioning either GE or previous incidents involving GE engines.

Overall, the coverage of ABC, Time and the NY Times appear to be the most negative toward GE engines. FOX, which is not owned by GE, had the most favorable coverage because GE was not identified at all. If one expects apparent coverage bias related to ownership, then such treatment should come from MSNBC rather than FOX.

The conclusion is that our investigation did not find convincing evidence to suggest that NBC showed bias in its Internet coverage of the incident where GE engines were involved. A reasonable explanation is that journalists working for NBC and MSNBC valued and upheld their journalistic values and ideologies in their reporting.

In this case, we can conclude that in the race between journalistic ideology/value and capitalism on the Information Superhighway, capitalism did not win. However, considering the fact that NBC took a very different approach from ABC and CNN in terms of being critical of GE engines, it is reasonable to suspect that a minor level of self-censorship may be at play.

To better answer our research question, future studies should examine NBC's coverage of more incidents that involved GE, either in the past or in the future. A case study may provide interesting observations; more data are needed in order to generate a more convincing conclusion.

The difference among these eight websites' coverage of the incident, however, should remind everyone of two important issues raised by critical scholars: the value of diversity of opinions and potential problems with media mergers. If the websites of ABC and CNN were the only two news source of this incident, then all audience would see only rather negative coverage and may be led to believe that GE engines were a likely cause. On the other hand, if the FOX site was the only source of news, then the audience would have no idea that GE engines could be a reason behind the crash. The implication is worrisome.

Table 1
Issues Appeared in New Websites' Coverage of Plane Crash

Issue/Site	NBC	ABC	CBS	CNN	FOX	NYT	LAT	Time
Engines mentioned	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
GE identified as engine maker	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Bird theory	Yes	Yes	No	No	No	No	No	No
Engines also made by another co.	Yes	No	No	No	No	No	No	No
Previous Airbus accidents	Yes	No	No	Yes	No	No	No	No
Clearly stating GE engines as a potential factor	No	Yes	No	No	No	No	No	No
Previous incidents with GE engines	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes
Previous govt. ivestigations of GE engines	Yes	No	Yes	Yes	No	Yes	Yes	Yes

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The impact of Web use on the public perception of physicians

Wilson Lowrey
Assistant Professor
Mississippi State University
200 McComas Hall, PO Box PF
Mississippi State, MS 39762
(662) 325-7841
wlowrey@comm.msstate.edu

William B. Anderson
Assistant Professor
Louisiana State University
(225) 578-2179
banders1@lsu.edu

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The impact of Web use on the public perception of physicians

Abstract / Grounded in concepts from the sociology of occupations, this study explores the impact of Web use on the degree of public legitimacy afforded the medical profession. The study also explores the degree of use of online health information and predictors of this use. Findings show substantial use of the Web for health information and that age, education level, employment and income level are the dominant predictors of this use. Findings also suggest heavy users of online health information are significantly less likely to see physicians as exclusive experts of medical decision-making – i.e., they afford physicians less legitimacy. Age, income and degree of acceptance of alternative medicine were also significantly related to perceptions of physicians.__

Keywords / online health information / medical profession / Web use / deprofessionalization / doctor-client relationship

The Internet has been described as "disintermediative." This buzzword describes the phenomenon whereby Internet users bypass society's middlemen to acquire information or purchase products and services (Shapiro and Shapiro, 1999; Evans and Wurster, 1999). The term is usually used in an economic context, but in a social context, removing the middleman may lead to a loss of valuable expertise (Shapiro and Shapiro, 1999). In some cases it may lead to diminished control over work by occupations and professions.

Literature in the sociology of work suggests that when members of an occupation are no longer exclusively privy to the special knowledge and expertise that underlie an area of work, the occupation may lose control over the work to interlopers from beyond the occupation's boundaries. Control over clients may also diminish (Simpson, 1985; Abbott, 1988; Child and Fulk, 1982). According to this literature, the less inscrutable and arcane a profession's knowledge base is, the lower is its public legitimacy. This study assesses the case of the medical profession and the impact of Web use on clients' perception of the profession's legitimacy.

The impact of Web use on the public perception of physicians

Occupations vary in the complexity of knowledge required to perform their work and in the level of legitimacy the public affords them. Medical work has high levels of both, and the consequences of disintermediation for society and for the occupation are greater. The recent increase in client use of online health information raises several questions relevant to the medical profession and to the overall structures and dynamics of public health. Does the increase in access to and use of online health information have an impact on the way patients perceive physicians? Are today's physicians losing some of their authority when faced with clients who are empowered with online knowledge? What are the implications of such changes for public health?

Findings should interest a medical community that is seeing its power base and public legitimacy challenged by corporate hospitals, insurance and drug companies, and politicians advocating healthcare reform. The study also should shed light on growing cracks in the relationship between the medical profession and its clients. Although on the individual level an informed patient is likely to ask better questions of a physician, a visit to an Internet health site is arguably more communication poor than a doctor's visit because it is not tailored for individual needs and typically offers little interaction. A clientele that bypasses knowledge gained from clinical visits may undermine the medical profession and the expertise it offers.

Findings also have implications for theory about the role of the Internet in society. Some scholars are fearful of the effects of disintermediation on expertise in society, but others have viewed the Internet as a liberating source of empowerment for individuals in the face of professional dominance.

Literature

The changing patient- physician relationship

Scholars of work and occupations stress the importance of the professional-client relationship in determining an occupation's degree of control over its area of work (Child and Fulk, 1982; Van Maanen and Barley, 1984; Simpson, 1985). Strong control is characterized as a relationship between dominant medical experts and a dependent, atomized clientele. A change in the balance of power in the physician-patient relationship could have an impact on the occupational status of those in the medical community.

Over the past several decades, scholars have identified a number of factors that might have an impact on the patient-physician relationship. Reeder (1973) argues that an increasingly well-informed clientele views medical services from a consumerist framework – the traditional deference and reverence to the profession is waning. According to Haug and Lavin (1983), increasing complexity of medical care tends to increase professional uncertainty about diagnosis and treatment, which in turn erodes patient trust and confidence. They also note that fragmentation and specialization of the profession undermine the stature of individual physicians as omniscient sources of information. Medical consumerism, the alternative health movement, and the perception that doctors prioritize power and money over patients have also changed the patient-physician relationship dynamic. Challenges to the established medical community are often portrayed by some sociologists as socially healthy (Haug, 1976; Haug and Lavin, 1979, 1983) but are generally perceived by physicians as destructive (Hughes, 1994).

Internet technology and deprofessionalization

Occupations assert control over their work through both structural means (licensure, accredited schools, etc.) and through cultural means – e.g., legitimacy in the eyes of the public (Simpson, 1985; Abbott, 1988; Freidson, 1970, 1994). Occupations that maintain exclusivity over complex knowledge bases, as well as over the ability to access this knowledge, more successfully control their work because those beyond the occupation cannot easily "know" how to perform the work (Abbott, 1988). In addition, occupations whose work is perceived as indeterminate, mysterious and non-routine more successfully maintain legitimacy in the eyes of clients and therefore are more likely to maintain control over work. Any contributor to increased transparency of a work process can weaken that occupation's control over work. (Nilson, 1979; Van Maanen and Barley, 1985; Abbott, 1988; Fine, 1996). The Internet is one such contributor (Shapiro and Shapiro, 1999; Kritzer, 1999).

In a case study of 10 households in Great Britain, Hardey (1999) found that medical dominance was challenged by the exposure of medical information to "the public gaze" through the Internet:

> The basic design of the Internet . . . represents a challenge to previously hierarchical models of information giving. This shift in control ... may be seen as contributing to the decline in awe and trust in doctors.

Hardey's study is theoretically grounded in Haug's "deprofessionalization thesis." Haug (1977) discusses the "computerization" of professional knowledge and the consequent accessibility of this knowledge to non-professionals. Greater public access to knowledge and the techniques of obtaining this knowledge may lead to a decline in public perception of legitimacy, which leads to a drop in professional status and an inability to control the work area. In the eyes of clients, physicians may become "just another commercial vendor." (p. 225)

Annandale (1998) and Hardey (1999) argue that the availability of health-related information on the Internet may create a "revolt of the client." (Weiss and Lonnquist, 1994, p. 228). Traditionally physicians have been exclusive holders of medical knowledge and arbiters of medical questions, which has helped maintain the elite status of the profession (Annandale, 1998). Access to health information on the Internet, however, may transfer more power to the patient (Slack, 1997) - empowering them to participate more in decisions regarding their health (Cullen, 1998; Hardey, 1999; Mechanic, 1999).

Web use and reaction of medical community

More and more individuals are using the Internet to obtain health information. Pastore (2001) says that 36.7 million persons in the United States searched for health information in May 2000, and the number is expected to grow to 88.5 million by 2005. In his national study, more than half of the respondents with Internet access reported seeking health information on the Internet. A separate national study by the Kaiser Family Foundation found that 75% of young adults surveyed searched for health information online, which is more than those who played games online (72%), downloaded music (72%), chatted (67%), shopped (50%) or checked sports scores (46%). The majority (55%) of those who have surfed the Web for health information do so just a few times a year, but 39% do so at least once a month ("Young Adults," 2001).

Many consumers of health information see the information on the Internet as reliable (Robinson, Flowers, Alperson and Norris, 1999) and are using it in discussions with their physicians. More than 90% of physicians and nurses in one case study of a single hospital reported that patients showed them information from the Internet (Jadad, Sigouin, Cocking, et. al., 2001). Some evidence exists that online information is having some impact on the physician-patient relationship. In one national survey, just under half of those who reported using the Web for health information said online health material affected their decisions about health care. And among these, roughly half said online information led them to ask doctors further questions, and 28% said the information influenced their decision about whether to visit a doctor (Fox and Rainie, 2000). At least one recent study found positive correlations between frequency of Internet use and the degree to which patients question doctors and suggest their own diagnoses (Pastore, 2001).

Physicians respond by raising concerns about the validity, quality, and consistency of medical information on the Internet (Kassirer, 1995; Jadad and Gagliardi, 1998). Physicians also worry that patients lack the required skill and knowledge to separate accurate from inaccurate online information. Berland, Elliott, Morales, et. al. (2001) and Kalichman, Benotsch, Weinhardt, et. al. (2001) found that online health information is frequently geared toward well-educated users.

Another physician concern is the quantity of medical information found on the Internet (Jadad and Gagliardi, 1998). In 2000, the number of health related Web sites totaled close to 20,000 (Pastore, 2001), and as this number increases, physicians say the chance of patients finding helpful and accurate medical information decreases. Still, Coelho (1998) notes, "Whether we like it or not, our patients are turning to electronic resources as their primary source of medical information. This trend … is decreasing our role in decision making." (p. 1454) Physicians, who until recently have generally had the ability to make autonomous decisions, now and in the future may have to engage in shared decision-making with clients (Fox and Ranie, 2000) or decision-making through consensus building ("Tomorrow's doctor," 1995).

Concepts and hypotheses

A handful of studies provide numbers on use of health Web sites and percentages of users whose healthcare decisions are influenced by online information. But, there has been little empirical research exploring the importance of Web use to perceptions of the medical profession or examining this relationship in a socially relevant theoretical framework.

The expectations and questions of the present study are grounded in concepts from the sociology of occupations and work, especially Abbott's theory of the system of professions. Abbott (1988) posits that occupations exist in an interrelated system and compete with one another for control over areas of work. The degree to which an occupation's knowledge base is complex, or is perceived as complex, is an important predictor of the degree to which it can exercise control over a work area. Professionals attempt to control their complex knowledge base and the right to use it to make diagnoses and inferences for clients. When clients have access to this knowledge base, control is threatened. Here control is based on cultural legitimacy rather than on structural legitimacy. Prominent sociologists of the professions agree that structural trappings of professional control (licensure, accreditation, etc.) will ultimately fail without legitimacy in the eyes of the public (Abbott, 1988; Simpson, 1985; Freidson, 1994).

Haug's (1977) deprofessionalization thesis dovetails with Abbott's theory. According to this thesis, the computerization of occupational knowledge leads to greater public access to this knowledge and is therefore likely to lower the level of public legitimacy afforded the occupation and threaten the degree to which the occupation may control its work. Medical Web sites are not the only media source for medical knowledge, but they are arguably the most extensive and convenient. The Internet also offers a means by which clients may provide one another with information, through chat rooms, etc. Greater use of the Web should lead to greater expertise in obtaining medical knowledge. This in turn should lead to a clientele that is less atomized, less powerless, and less dependent on knowledge gained from direct interaction with physicians.

Of course the medical community is responsible for much of the health information available on the Internet, and so in this sense, clients are still dependent on the profession's knowledge base. It is proposed here that what may be changing is the perception of control in the doctor-client relationship, and a central component of this perception is the personal relationship between doctors and clients. This relationship is structured through the professional routine of the office visit, in which the individual doctor serves as an embodiment of the profession's knowledge base to the client. Wide availability and easy access to the knowledge base by other means undermines the perception of professional dominance in these relationships by making the source of this dominance more transparent. Clients are able to more clearly perceive the distinction between the individual doctor and the profession's knowledge base. Also making fewer trips to the doctor's office because of the availability of online health information disrupts patterns that structure control in the relationship. Clients that are more familiar with the knowledge base and less dependent on doctors and less dependent on doctor's professional routines (such as office visits) for medical information should grant physicians less legitimacy. These suppositions suggest the following hypothesis.

H: The higher the degree of Internet use for medical information by clients, the lower the degree of legitimacy clients afford doctors.

Degree of Internet use is conceptualized as time spent on the Internet and variety of use of Internet functions, such as chat rooms, forums, Web sites and personalized browsers. Degree of legitimacy is defined as the degree to which clients perceive doctors as being exclusive experts of medical decision-making. Findings from the test of this hypothesis should have special implications for the medical profession, which is seeing its authority increasingly challenged by drug companies, hospital bureaucracy, alternative healthcare, and insurance companies.

There are also larger social implications for variability in perceived medical legitimacy. If Web use does act as an agent in weakening the grip physicians have over diagnosis and inference of medical problems, results would lend some support to hopeful propositions by some scholars and pundits that the Internet can serve as a social leveler (Schultz, 2000; Shapiro and Shapiro, 1999; Friedland, 1996). Some scholars have viewed the medical profession as an example of oppressive institutional dominance (Larson, 1977; Freidson, 1994). In this view deprofessionalization encouraged by Internet use could free medical knowledge from the distortions of the professional power structure. However it should be noted that many scholars consider this view to be utopian and lacking in historical precedent. They cite previous examples in which new media forms have come under the control of existing power structures. Dominant elements in society gain control over new media technology, channels and content, and the knowledge gap – here a professional knowledge gap – persists (Sussman, 1997; Beniger, 1986).

It is not expected that degree of Web use acts in a vacuum. Rather it is assumed that media operate in a pluralist society, with "a pre-existing structure of social relationships" (McQuail, 2000: 419). Retrieval of medical information on the Web may bypass the doctor-client relationship, but rival predictors exist. The literature on client perception of medical care (which often look at "patient satisfaction") has focused on patient demographic characteristics such as education, income, family size (Aharoney and Strasser, 1993; Fox and Storms, 1981; Ware, Davies-Avery and Stewart, 1978) and health status (Rubin, 1989). Age and gender have proven to be particularly consistent predictors, with older respondents and women generally having significantly more positive perceptions of doctors (Laveist, Nickerson and Bowie, 2000; Aharoney and Strasser, 1993; Pascoe, 1983). The proposed relationship between Web use and perception of physician legitimacy will be tested while controlling for rival demographic predictors suggested by the literature: age, gender, income, education, family size, health status and perception of alternative medicine.

As a secondary purpose this study provides descriptive information about the independent variable, use of the Web for medical information, and a brief analysis of factors that influence this use. Studies of Internet use have suggested that age, income, education level and patterns of overall media use are significant factors affecting Web use (Gardner and Oswald, 2001; Johnson and Kaye, 2000; "Study of the social consequences," 2000; "The Internet news audience," 1999).

Method

Data were obtained from a December 2001 telephone survey of a random sample of households with telephones in the Baton Rouge, La. metropolitan area. The metro area was defined as the population of the four major parishes (the name for counties in Louisiana) in Baton Rouge. Because of the exploratory nature of the study, a regional rather than a national study was conducted. The decision was made to sample a city because the boundaries of communities are less arbitrary than regions and states. Baton Rouge was selected because its occupational and economic mix was typical of the nation and promised sufficient variability in questions about Internet use. It was also thought that surveying the area local to the researcher's university would improve response rate.

The survey was pre-tested on 37 university students and eight older non-students, and several questions were adjusted as a result. Interviews took respondents approximately 10 to 12 minutes to complete. Of the eligible respondents contacted, 406 completed the interviews and the response rate was 95.7%. The sampling error for the data set is no larger than ± 4.9%.

Respondents were asked four questions designed to measure the dependent variable, Perception of Medical Legitimacy. On a five-point scale (5 = "Strongly Agree" to "1 = "Strongly Disagree"), respondents were asked if in the event of a medical problem it was better to research the problem on their own before talking to a physician (mean = 2.77, s.d. = 1.21). Using the same scale, respondents were asked: "In the event of a medical problem I think it is possible to gather enough information on my own to determine the cause of my problem" (mean = 2.76, s.d. = 1.18) and "With so many places to get health information, I feel I have less need to consult doctors for medical problems" (mean = 2.52, s.d. = 1.17). Respondents also were asked to use a five-point scale (5 = "Not Difficult" to "1 = "Extremely Difficult") to rate how difficult they thought it would be to master knowledge necessary to become a physician (mean = 1.59, s.d. = 1.10).

These measures move from the specific to the general. The first two questions assess clients' willingness to bypass physicians and use the professional knowledge base themselves in specific instances. The second two questions ask more directly and broadly about perceptions of the value of the medical profession. The fourth measure assesses the degree to which the professional knowledge base is seen as complex and impenetrable. When an occupation's knowledge base is perceived as accessible, the occupation is less likely to be able to control its work.

These four measures were tested for interreliability and had an alpha coefficient of .68. The measures were summed into an indexed variable. Higher scores on this index indicate a greater willingness to bypass or challenge the expertise of doctors. Research questions were assessed by using the index and by using the measures independently.

The independent variable Degree of Web Use was measured through three survey questions that assessed frequency of use for health information. The first measure asked how often respondents visited Web sites specializing in health information. This measure was scored on a scale of 1 to 6, (6 = "4 to 7 days a week," 5 = "1 to 3 days a week," 4 = "at least once a month," 3 = "less often," 2 = "never visit Web sites for health information" and 1 = "never use Web at all"). The mean for this measure was 2.66, and the standard deviation was 1.61. Using the same survey measure, respondents were asked how often they used interpersonal Web functions such as chat rooms, bulletin boards, listservs, and e-mail for health information. Because there were few respondents in the top three categories, these were combined, resulting in a 4-point scale (mean = 1.83, s.d. = .83). Respondents were also asked if they had ever personalized their Web browser page to include health information or links to health information. This measure was coded so that 1= "Never use the Web," 2 = "Use the Web but don't personalize browser," 3 = "Personalize browser but not with health information," and 4 = Personalize browser and include health information" (mean = 1.92, s.d. = .93). These three measures had an alpha of .82 and were standardized and summed to create a single index of Degree of Web Use.

Demographic data were also collected to serve as controls in the statistical analysis, including respondent's age, gender, employment, education, marital and family status, health status and income. Respondents were also asked if they had ever worked or studied in a health-related field, and they were questioned about their perceptions of non-traditional health practices. Those who practice alternative medicine sometimes also visit practitioners, but they are highly likely to self-diagnose (Wagner, Jester and LeClair, 1999).

The mean age for the sample was 44.4, with a standard deviation of 17.4. Around four in 10 of respondents were male, and close to 60% had children living with them. About two-thirds had at least some college education, about 45% had household income levels over $50,000, and almost 60% were employed full-time. Almost seven in 10 said they had worked or studied in a medical-related field, just over 40% said a member of the household was chronically ill, and just over 30% said they found alternative medicine very helpful, as opposed to 12% who found it not at all helpful.

Results

Almost 65% of respondents said they made some use of the Internet, with 43% saying they used the Internet at least four days a week. Among respondents who said they used the Internet, more than three-quarters said they had visited Web sites to get health information, and 58% said they visited these sites at least once a month. Use of interactive forums such as chat rooms to get health information was less frequent, with just over 20% of Internet users saying they had done so and a little more than 11% saying they use these features at least once a month.

More than 30% of Internet users said they had personalized their browsers, and among these, half said they had included health information or links to health information on the opening page of their browser.

Next the study's independent variable was treated as a dependent variable – Web use for medical information was tested for bivariate relationships with factors predicting Web use. Consistent with findings from previous studies, age and education level correlated strongly with Web use, with correlations of -.393 and .312 respectively (Table 1). Other significant predictors were also consistent with previous studies, including level of employment (.240), income (.183), and overall media use (.173). Two other predictors were tested that did not derive from the Web use literature. Among these, children in the household was a significant predictor of Web use for medical information (.148), but surprisingly, health status (chronic illness in the household) was not a significant predictor. It appears then that those who use the Web for medical information tend to be younger, better educated, employed, more affluent, and heavier media users. They also tend to be parents. The insignificance of health status indicates online health information is sought on a casual basis – that is, family health status does not need to be dire for individuals to decide to seek information on their own.

As a preliminary test of the hypothesis, bivariate relationships between Degree of Web Use and the individual measures of the dependent variable, Perception of Medical Legitimacy were examined (Table 2). Degree of Web use correlates significantly (.165) with the scaled dependent variable. It also correlates significantly with the individual measures "Better to gather information before calling a doctor" (.179) and "Can diagnose own illness" (.140). There is no significant correlation between Web use and the two measures, "Don't need doctors," and "Not difficult to become a doctor." These findings lend some preliminary support to the hypothesis but also suggest Web use affects perceptions of one's own abilities to make medical judgments more than it affects perceptions of the profession itself.

A regression analysis was then conducted in which the index Perception of Medical Legitimacy was the dependent variable. Predictors were tested for multicollinearity (the highest correlation was .432) and were then entered in two blocks. The first block consisted of the traditional demographic predictors suggested by the literature: age, gender, education, income, employment level, family status (children in household), occupational affinity (have worked or studied in medical field), health status (chronic illness in household), and perception of alternative medicine. Degree of Web Use was added in a second block to test if it significantly improved the model (Table 3).

The R-square of the first model is fairly low, but significant at .114. The dominant predictor is age, followed by perception of alternative medicine and income level. When Degree of Web Use is added in the second block, the R-square of the model improves significantly (at the .05 level) to .128. Degree of Web Use tests as a significant predictor at the .05 level with a beta of .132. This is further support for the hypothesis. Even when controlling for the traditional rival predictors, Degree of Web Use accounts for a significant amount of the variance in the degree of legitimacy clients give doctors.

The strongest predictor in the final model is age, with a beta of -.224. Income level is also significant, at .144. This suggests younger and wealthier clients are more likely to challenge doctors and rely on their own devices for medical information. The only other significant predictor was perception of alternative medicine. Not surprisingly, those who said alternative health practices were helpful were more willing to bypass the expertise of the mainstream medical profession.

It should be noted that the R-square of the final model only explains about 13% of the total variance in the dependent variable. This suggests there are other important explanations for variability in the perceptions of doctors' legitimacy.

Discussion

This study indicates there is substantial use of the Web for health information purposes. Approximately half of the total sample in this study had visited health Web sites, and almost a fifth of the sample said they personalized their browser to include health links or health information. Fewer used chat rooms for health information, but that echoes the trend on chat room use in general (Pew Research Center, 1999). The use of online health information in this sample mirrors results in previous studies suggesting that Web use for medical information is likely to continue to increase (O'Connor and Johanson, 2000; Pastore, 2001).

Much attention has been paid to social institutions, such as the insurance industry, drug companies and alternative health fields, posing threats to the medical profession. It appears that an increasingly interactive, encyclopedic and accessible media form may also pose a challenge. While not generalizable beyond the sample, findings lend support to propositions by Abbott (1988) and Haug (1977) that access and use of professional knowledge through the media challenge the public legitimacy of professions. The technology of the Internet makes it easy for users to gather a wide variety of health information quickly, which threatens the ability of professionals to control their knowledge base, and to exclusively derive diagnoses from it. This impact of Web use is not merely an artifact of socio-economic status. The effect holds up when controlling for education, income and employment.

However, heavy use of online health sites corresponds more strongly to a willingness to assess one's own medical condition than it does to a willingness to question the need for a medical profession. These two concepts are distinct, and yet they overlap. Willingness to self-diagnose or to choose an online session over a doctor's visit shows an awareness that the profession's knowledge base is separate from the profession's practitioners. The doctor becomes a middleman, if not an entirely expendable one.

Findings add weight to the proposition that the Internet can have a leveling effect on society's stratified structure. The modern medical profession has been criticized by some scholars of the professions for protecting its own power more vigorously than the public health (Freidson, 1994; Larson, 1977). A more knowledgeable clientele may place pressure on the medical community to accommodate clients and to deliver accurate and clearly reasoned diagnoses. Also, messages conveyed by doctors should be received in a more informed context by clients. Of course, as some physicians warn, Internet-based knowledge may pose a health threat. Information on health sites may be incorrect, incomplete, or outside the appropriate context. While this is a real danger, research in the sociology of professions suggests the medical public should keep an eye on the consequences of unchecked professional dominance. A misinformed, pushy clientele may do little to benefit the public health, but the same may be said for a medical community that prioritizes control over the doctor-client relationship.

The medical community, especially its professional associations, should work hard to provide and market its own online health content as a superior alternative to questionable information found on the Internet. Also, physicians should acknowledge the trend toward increased online research by patients and work with the client to ensure understanding of medical information, derived from the Internet or elsewhere. The medical community is itself using online technology to improve its own understanding of the profession's knowledge base, and as the knowledge gap thesis suggests (McQuail, 2000; Tichenor, Olien and Donohue, 1980), the medical community may gain control over the publication of medical information. The information-rich medical establishment has higher information skills and more resources than the general clientele and would therefore widen the knowledge gap. This should be a welcome result of pressure from an increasingly knowledgeable clientele, but the gap should not widen to the point that the knowledge base again becomes inaccessible or impenetrable in its complexity. Of course the medical profession has other rivals for control over its knowledge base, including the insurance and drug industries, and the government. In fact recent increases in use of online health information dovetail with marketing efforts by healthcare and drug companies to encourage patients to challenge doctors and suggest treatments (Pastore, 2001).

The study's model explains about 13 percent of the total variance in the dependent variable. This indicates more research is needed to examine other possible explanations for variability in the perceptions of doctors' legitimacy. Future studies might explore the impact the media have on the larger competitive system of professions in which the medical field is situated. For example a study that compares how Web users view both physicians and their occupational rivals – insurance companies, drug companies and hospital administrators – could be insightful, especially if such a study were conducted across time. Studies on media impact should not be limited to the Internet. Researchers should also examine how the media image of the medical community affects public perception of medical legitimacy, as well as how it affects satisfaction with medical services. For example, do motion picture and television show portrayals of physicians create unrealistic expectations of their services? How does print coverage of the medical field affect the profession? Some empirical research has been done in this area (e.g., Pfau and Mullen, 1995), but given recent social and professional changes, follow-up research would be helpful.

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Table 1: Bivariate correlations between Degree of Web Use for health information and traditional predictors of Web use

Predictors	Degree of Web Use
Age	-.393** (N=402)
Educational level (From 1 = "No school" to 8 = "Doctorate")	.312** (N=402)
Employment (1 = "Unemployed", 2 = "Part-time", 3 = "Full-time")	.240** (N=403)
Income level (From 1 = "Less than $25,000" to 5 = "Over $100,000")	..183** (N=397)
Media use (hours/per week of use)	.173** (N=402)
Have children in household	.148** (N=402)
Gender (1 = "male," 2 = "female")	-.085 (N=405)
Have chronic illness (respondent or family member, 1 = "No", 2 = "Yes")	.029 (N=401)

**Significant at the .01 level
Entries are Pearson Product Moment Correlation Coefficients

Table 2: Bivariate correlations between Degree of Web Use for health information (as a predictor) and measures of Perception of Medical Legitimacy (dependent variables)

Dependent measures	Degree of Web Use (predictor)
Perception of Medical Legitimacy (scaled index, higher score means less legitimacy afforded doctors)	.165** (N=406)
Better to get information before calling doctor. (1 = "Strongly Disagree"; 5 = "Strongly Agree)	.179** (N=406)
Possible to gather enough information to diagnose one's self. (1 = "Strongly Disagree"; 5 = "Strongly Agree)	.140** (N=406)
Don't need doctors as much with so many other ways to get medical information. (1 = "Strongly Disagree"; 5 = "Strongly Agree)	.079 (N=406)
How difficult to master knowledge necessary to become a doctor. (1 = "Extremely difficult"; 5 = "Not difficult at all,")	.032 (N=406)

**Significant at the .01 level
Entries are Pearson Product Moment Correlation Coefficients

Table 3: Perception of Medical Legitimacy Regressed on Degree of Web Use and traditional predictors of perceptions of doctors. A higher score on dependent variable means less legitimacy.

	Model 1: Without Degree of Web use (N = 406)	Model 2: With Degree of Web Use (N = 406)
	R Square = .114**	R Square = .128** F Change = 3.656*
Age	-.266**	-.224**
Alternative Health practices (1 = "Not at all Helpful"; 3 = "Very Helpful")	.161**	.158**
Income level (1 = "Less than $25,000"; 5 = "More than $100,000")	.159**	.144*
Employment (1 = "Unemployed", 2 = "Part-time", 3 = "Full-time")	.041	.027
Educational level (From 1 = "No school" to 8 = "Doctorate")	-.048	-.071
Gender (1 = "male," 2 = "female")	.088	.082
Have children living with you? (1 = "No"; 2 = "Yes"}	-.096	-.090
Have chronic illness (respondent or family member, 1 = "No", 2 = "Yes")	.025	.010
Ever studied or worked in medical field? (1 = "No"; 2 = "Yes")	-.026	-.017
Degree of Web Use		**.132***

**Significant at the .01 level
*Significant at the .05 level

Communicating In The Aftermath of A Crisis: Lessons Learned From 9/11

by

Terence (Terry) Flynn
Doctoral Student – Mass Communication Program
S.I. Newhouse School of Public Communications
Syracuse University

548 Clarendon St.
Syracuse, NY 13210
Phone: 315-477-9898 (voice mail)
E-mail: ttflynn@syr.edu

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Abstract

The terrorist attacks in New York and Washington in September 2001 were devastating examples of how a crisis can strike at the heart and soul of an organization. Crisis management literature provides the basis for understanding the steps that organizations should take but provides limited empirical evidence of what organizational variables contribute to the successful management of a crisis event. This study uses, for the first time, three indexes to measure organizational leadership, preparedness and demand during crises.

INTRODUCTION

It was an almost unbelievable and incomprehensible textbook example of a crisis: an unpredictable, major threat that has had a negative effect on organizations, industry and the public (Coombs, 1999). From the moment that the first plane hit the World Trade Center in New York City on September 11, 2001, the world of crisis communication took center stage with news conferences, media briefings, employee meetings, toll-free hotlines, and websites. A state of panic swept the entire country, as reporters, government officials and media experts tried to make sense of the events. As the crisis widened, some organizations turned to their crisis manuals, while others turned to intuition and instinct. Some organizations showed clear and deliberate leadership, while others struggled to find their way.

As the dust began to settle, the importance of communicating in a crisis hit a fevered pitch. It was as equally important for the nation to hear from the President as it was for the president of an investment company to hear from her employees. The country, the families, and the survivors of this horrific tragedy experienced a disruption that physically affected their basic assumptions and sense of the world. The immediate effect of this crisis, as Pauchant & Mitroff (1992) predicted, threatened the legitimacy of organizations, stopped or reversed their strategic missions, and disturbed the way people see the world and themselves.

As the rubble and debris were cleared away, and the organizations that were directly impacted by this crisis began the process of rebuilding, researchers have begun to uncover the best and the worst of communicating in a crisis. According to Ulmer and Sellnow (2000), if handled effectively, organizations have the potential to benefit from crises. In fact, there are indications that the crisis communication approach taken by some organizations, like the City of New York, are being held out as models of excellent crisis public relations. There are also organizations that failed to respond to their employees, their families, their customers in a manner that engendered trust and confidence. The long-term survival of those organizations will be in jeopardy.

RESEARCH PROBLEM

While the 9/11 tragedy stands alone in terms of the devastating impact it has had on individual businesses and the economy, it is a reminder for all organizations that: *credo quai impossible* – it is certain because it is impossible (Marra, 1997). Just think about recent news stories that have dominated our water cooler conversations: workplace violence, school bus accidents, construction fatalities, financial embezzlement, the list is almost endless. From Ford's finger pointing at Bridgestone to the Walkerton Ontario water crisis to Britain's hoof and mouth outbreaks, our daily newspapers and newscasts constantly report stories of mismanagement, malfunction, death and destruction.

Crisis events have a dramatic impact on an organization's ability to survive. As Penrose (2000) identified, about 40 per cent of Fortune 1000 industrial companies do not have an operational crisis plan and fully 80 per cent of companies without a comprehensive crisis plan vanish within two years of suffering a major disaster. So why is it that some organizations are capable of effectively limiting reputational damage during crisis events? Is it because they have good luck or is it because wise organizations know that crises will befall them; they just do not know when (Coomb, 1999).

The purpose of this study is to determine what, if any, changes in the demand for crisis public relations in organizations occurred in the aftermath of the World Trade Center crisis. Furthermore, it examined the role of leadership in both crisis preparedness and crisis management and the extent to which excellent organizations are lead by crisis leaders. Finally, the study seeks to understand the level of demand for increased crisis preparedness in light of the World Trade Center tragedy by organizations.

THEORY

A critical review of crisis management and crisis communication literature over the last 20 years produces a great deal of instruction but little in the way of explanation or prediction. As such, there has been relatively little crisis public relations theory building despite the fact that organizations face crises everyday. The field of crisis communication management is deep in anecdotes and prescriptive models but rather shallow in theory development. Some researchers have had limited success looking to situational theory (Grunig, 1994), organizational theory (Massey, 2001), chaos theory (Murphy, 1996), and the excellence theory of public relations (Grunig, 1992) to help explain why and how organizations respond during crisis events. Marra (1997) stated "many conventional and accepted public relations tactics do not contribute to managing crises well. The current mindset of crisis public relations needs to be replaced with one that allows managers to practice excellent public relations (p. 2)." As a student of J.E. Grunig at the University of Maryland, Marra positions his theory within the excellence theory of public relations. "Although the Excellence study did not specifically address crisis public relations, much of its literature review and findings are applicable to developing theory in crisis public relations" (p. 20). To be excellent Marra believes that crisis public relations must be strategic, have a two-way symmetrical focus, have the authority and autonomy to act quickly and that the senior public relations practitioner must be a member of the dominant coalition and report directly to the Chief Executive Officer (Marra, 1997).

Crisis Communication

A crisis according to Heath (1997) is an untimely event that may prevent management from accomplishing its efforts to create the understanding and satisfaction between the organization and interested parties needed to negotiate the mutually beneficial exchange of stakes. If unattended or poorly managed, the crisis can prevent the organization from making satisfactory progress toward achieving its mission. According to Williams and Olaniran (1994), crises vary in degree and probability but all share the threat of causing damage to companies which can be measured in terms of harm to the corporate image and actual financial losses. Furthermore, a crisis threatens the physical system of an organization (Pauchant & Mitroff, 1992).

Organizational crises are low-probability, high-impact events that threaten the viability of the organization and are characterized by ambiguity of cause, effect, and means of resolution, as well as by a belief that decisions must be made swiftly (Pearson, 1998). Burnett (1994) states that crises provide myriad-learning opportunities for the organization. For example: How well do we adapt to unexpected threats? What changes, if any, in organization structure and policies would enhance our sensitivity and responsiveness to crisis situations?

Communication, according to Burning and Ledingham (2000), is a vehicle that organizations should use to initiate, develop, maintain and repair mutually productive organization-public relationships. Therefore when taken together, crisis communication is best defined as the verbal, visual, and/or written interaction between the organization and its publics (often through the news media) prior to, during, and after the negative occurrence. The communications are designed to minimize damage to the image of the organization (Fearn-Banks, 1996; Fearn-Banks, 2001).

An organization's crisis communication mindset is described by Pauchant and Mitroff (1992) as one in which the perceptions of senior executives determine cultural beliefs in the organization about the value and need for crisis management. Pearson (1998) states that organizational crisis preparedness starts with executive perceptions about risk and risk-taking. The most lucid explanation of the crisis mindset is best delivered by Habermas (1975) who clearly and concisely stated, "the crisis cannot be separated from the viewpoint of the one who is undergoing it" (p. 73).

In order to incorporate crisis communication into a more strategic framework, a number of researchers categorize this function as crisis management. Pearson & Clair (1998) define it as the systematic attempt to avoid organizational crises or to manage those crises that do occur. To achieve that condition, organizations implement a crisis management plan, which consists of a full range of thoughtful processes and steps that anticipate the complex nature of crises (Caywood & Stocker, 1993). Included in those steps would be the designation of a crisis team, communication processes, stakeholder assessments, media relations initiatives, and post-crisis evaluations.

Leadership

"Leadership is a choice, not a position," said organizational author Stephen Covey. "We hear things happening among groups of people who were fleeing the wounded Twin Towers, strangers with a vision and a plan, rallying those too fearful to know what step to take next" ("Terrorist Attacks", 2001).

Leadership is about coping with change, setting a direction, aligning people, motivating and inspiring-keeping people moving in the right direction, despite major obstacles to change, by appealing to basic but often untapped human needs, values, and emotions (Kotter, 1999). For organizations, leadership is often regarded as the most critical factor in determining overall success or failure (Bass, 1999). According to Grunig (1992), "excellent leaders provide a vision and direction for the organization, creating order out of the chaos" (p. 233).

During crisis events, organizational leaders become the catalyst of success or the millstone of failure. Crises are about uncertainty and fear. Leadership is about anticipation, vision, flexibility and empowerment (Byrd, 1987). Crisis leadership therefore is the ability of a senior manager to provide vision and direction during times of change and uncertainty. Effective leadership during times of crises can, as we have seen with New York Mayor Rudy Giuliani, strengthen the resolve of the organization to survive and become stronger: shaken but resolute and determined to shape the future rather than merely adjusting to it ("Profiles in Leadership," 2001).

The Demand and Delivery of Crisis Public Relations

According to Grunig (1992), excellent organizations demand excellent public relations through the use of two-way symmetrical and two-way asymmetrical practices. This demand, which was first illustrated in the Excellence Study, is also a critical element in the successful management of crises. "CEO's and communicators mentioned crises again and again as catalysts for changes in management's view of communication: the Bhopal tragedy, the Exxon Valdez oil spill, the oil embargo of the 1970s, and activist opposition to nuclear power plants are examples. These events served as wake-up calls to senior managers who previously placed little importance on public relations and communications management" (Dozier, Grunig & Grunig, 1995, p. 103). For the purposes of this study, I propose to move beyond the classic question raised by Dozier, Grunig & Grunig, "What comes first, the demand or the delivery?" Rather, I take the position that the catastrophic crisis events of 9/11 will have increased the dominant coalition's demand for a more active crisis public relations practice from the organization's public relations department.

HYPOTHESES

H1: Those organizations that demonstrate a high level of crisis leadership will have a high level of crisis preparedness, whether preparedness is measured before or after the 9/11 attacks.

According to Penrose (2000), the success of crisis management programs rests with the senior management's willingness to engage in proactive planning initiatives. Furthermore, Pearson and Clair (1998) showed that executive perceptions are the fundamental and initiating variable in determining potential outcomes from a crisis. As Mitroff (2001) wrote, the best form of crisis leadership is to increase one's crisis preparedness. This high-level function, which resides in the executive suites, must have mechanisms and structures to prepare the organization for potential crises. Therefore, the increased crisis preparedness of the organization will be directly tied to the level of senior management leadership as the organization prepares for a crisis.

H2: The higher the level of crisis leadership within an organization, the higher the level of demand for crisis public relations, whether before or after the 9/11 attacks.

H3: The more an organization's senior management team demands crisis public relations, the more prepared the organization will be for a crisis. Furthermore, the demand for crisis preparedness will be greater after the 9/11 attacks than before the attacks.

The intent of H2 and H3 is to test the level demand for public relations within organizations regardless of the 9/11 attacks. The demand-delivery concept of public relations was first proposed by Dozier, Grunig & Grunig (1995) as a means of understanding the cycle of dependency between senior management (or as they call it, the dominant coalition) and the public relations department. "The demand-delivery linkage describes an ongoing relationship between communicators and the dominant coalition. When the dominant coalition expect communicators to think strategically to solve a problem or conflict with a key public, that reinforces the knowledge or expertise in the communication department to deliver communication excellence" (p. 16).

METHOD

A self-administered survey questionnaire was e-mailed to students and graduates from an executive, masters-level public relations program, at a northeastern university. A list of 133 participants was obtained from the chair of the Public Relations Department, comprising all students and graduates of the program over its seven-year history.

The profile of a typical student is a graduate holding a undergraduate degree from an accredited college or university in liberal arts, mass communications, or public relations. They are experienced professionals in public relations or a related field whose current position and/or career advancement plans require expanded knowledge and experience in counseling and decision-making processes; a firmer grasp of management and finance; a global perspective; strategic planning; and leadership

An e-mail message, introducing the researcher, was sent to all participants from the chair of the Public Relations Department, encouraging the students and graduates to participate in this research project. Two days later, an e-mail message, which included the self-administered questionnaire as an attachment, was sent to all 133 participants by the researcher. After eliminating wrong e-mail addresses and job changes, the study population was eventually reduced to 125. Three follow-up e-mail messages were sent to all participants. A total of 33 completed questionnaires were returned, resulting in a response rate of 26 per cent.

The average age of participants was 44 (range = 30 to 62). Of those that participated, 58 per cent had a master's degree and 36 per cent had a bachelor's degree. The majority of participants were female (61%), which is representative of the public relations industry. Most of the participants came from older and larger organizations: 70

per cent of the organizations were more than 25 years old while 55 per cent had more than 500 employees.

TABLE 1 ABOUT HERE

Measures

Crisis leadership was operationalized using a Crisis Leadership Index (Table 1) where participants were asked a series of questions regarding their organization's level of leadership during crisis events. This scale was adapted from Pauchant and Mitroff (1992) in which they tested the variables of leadership and organizational culture during crisis events. Responses: 5 = strongly agree, 4 = agree, 3 = neither agree nor disagree, 2 = disagree, 1 = strongly disagree (M = 3.4, SD = .68)

TABLE 2 ABOUT HERE

Crisis public relations demand was operationalized using a Crisis Public Relations Demand Index (Table 2) where participants were asked a series of questions regarding their organization's demand-delivery linkage during crisis events. This scale was constructed from a series of questions posed by Marra (1998) in order to further the research on crisis public relations excellence. Responses: 5 = strongly agree, 4 = agree, 3 = neither agree nor disagree, 2 = disagree, 1 = strongly disagree (M = 3.5, SD = .72).

TABLES 3-4 ABOUT HERE

Crisis preparedness was operationalized using two Crisis Preparedness Indexes (Tables 3 - 4) whereby the preparedness of the organization was measured by the presence or absence (1 = yes, 0 = no) of a series of commonly accepted crisis preparedness tools, before and after the 9/11 attacks. (Before 9/11: M = .44; After 9/11: M = .22).

RESULTS

Given that this study was exploratory in nature, it was important to begin the process of establishing a number of methods to measure crisis leadership, crisis demand and crisis preparedness. Researchers such as Pauchant and Mitroff (1992), Dozier, Grunig and Grunig (1995), Marra (1998), and Mitroff (2001) suggested a number of questions that could be used to test each variable, but no one instrument has been developed which would lead to the creation of these indexes.

TABLE 5 ABOUT HERE

Crisis Leadership Index (CLI)

Twelve variables were used as the basis of the CLI. Participants were asked to rate their level of agreement with each question from "strongly agree" (5) to "strongly disagree"(1). A high reliability score was attained (Cronbach's alpha = .85) on the first analysis. In addition, the variables were almost all significantly inter-correlated using Pearson correlation coefficients as seen in Table 5.

TABLE 6 ABOUT HERE

Crisis Demand Index (CDI)

Seven variables were used to create the CDI. Participants were asked to rate their level of agreement with each question from "strongly agree" (5) to "strongly disagree" (1). A high reliability score was achieved (Cronbach's alpha = .80) on the first analysis. In addition, the variables were nearly all significantly inter-correlated using Pearson correlation coefficients as displayed in Table 6.

TABLES 7 - 8 ABOUT HERE

Crisis Preparedness Index (CPI)

Eleven variables were used as the basis of the CPI. Preparedness of the organization was measured by the presence or absence (1 = yes, 0 = no) of a series of commonly accepted crisis preparedness tools, before and after the 9/11 attacks. A high reliability score was attained for both before the 9/11 attacks (Cronbach's alpha = .88) and after the attacks (Cronbach's alpha = .82) on the first analysis for each scale. Table 7 shows that the Before 9/11 CPI was significantly inter-correlated using Pearson correlation coefficients. The After 9/11 CPI was moderately inter-correlated using Pearson correlation coefficients as seen in Table 8.

TABLE 9 ABOUT HERE

The first hypothesis predicted that the higher the level of crisis leadership within an organization, the higher the level of demand for crisis public relations, whether before or after the 9/11 attacks. This hypothesis achieved a significant Pearson correlation ($r = .66$, $p < .01$) thereby supporting the position that those organizations with a high level of crisis leadership will have a high level of crisis preparedness as displayed in Table 9.

The second hypothesis, the higher the level of crisis leadership within an organization, the higher the level of demand for crisis public relations whether before or after the 9/11 attacks was also supported. As seen in Table 9, the two Indexes – Crisis Leadership and Crisis Demand, are also significantly correlated ($r = .65$, $p < .01$).

The third hypothesis, the more an organization's senior management team demands crisis public relations, the more prepared the organization will be for a crisis, whether before or after the 9/11 attacks, produced conflicting results.

Table 9 clearly shows no correlation (r = .26, p > .05) between the CDI and the Before 9/11 Crisis Preparedness Index, while it shows a moderate correlation (r = .44, p< .05) between the CDI and the After 9/11 Crisis Preparedness Index. The results in Table 10 show that when crisis demand is correlated with crisis preparedness after 9/11, controlling for preparedness before the attacks, there is a strong correlation (r = .57, p < .001). The conflicting results are apparent when you examine Table 11 which shows a significant difference between the Indexes (t = 4.7, p < .01) as evidenced by a dramatic decrease in mean scores between the Before and After Indexes (Before m = .44; After m = .20).

TABLES 10-11 ABOUT HERE

DISCUSSION

As we have witnessed in September 2001, crises can strike at anytime. Crisis researchers have written many manuals and articles on how an organization should prepare for a crisis and yet, as Penrose (2000) identified only 40 per cent of Fortune 1000 companies have a crisis plan. Our participants yielded a higher response of 67 per cent, which is a significant difference from the previous studies. However crisis preparedness should not be considered independent of other factors in the organization.

Both Marra (1997) and Mitroff (2001) have suggested that it is the leadership of the organization that determines the level of crisis preparedness. Furthermore as Dozier, Grunig & Grunig (1995) stated, the higher the more demand for public relations the more prepared the organization will be in the event of a crisis. This study supports those claims showing significant correlations between the Crisis Leadership Index and the Crisis Demand Index and a moderate correlation with the Crisis Preparedness Index.

One finding that needs further exploration is the dramatic decrease in preparedness from before 9/11 to after 9/11. The results may be explained by the timeliness of the study. The surveys were distributed and returned within 70 days of the 9/11 attacks and as such, it would appear that most organizations did not have an opportunity to think beyond the immediate crisis to make the improvements measured in the After 9/11 Index. As such, it would be important to use this Index at a later date to determine if in fact organizations have increased their crisis preparedness.

This study, while limited by the small sample size – 33 participants, has combined variables from Marra and Mitroff to develop a series of Indexes that are designed to measure the level of leadership, demand and preparedness during crises. These instruments should be tested on a larger sample, within the public relations industry, to assess its reliability and validity.

While we are unable to make generalizations about these findings, the results are an important contribution to the body of crisis communication literature. This is the first study to use measuring instruments such as the Crisis Leadership Index, the Crisis Demand Index and the Crisis Preparedness Index as a means of assessing an organization's ability to lead and ready itself for a crisis.

Table 1. Means and standard deviations for characteristics of crisis leadership.

Variables	**Mean**	**Standard Deviation**	**N**
The public relations department has authority to make decisions in crisis.	3.27	1.18	33
The organization's President/CEO should be visible at the crisis site.	4.06	1.05	32
The organization's President/CEO shouldn't be the only spokesperson in a crisis.	3.81	.983	33
The organization has a multi-disciplinary crisis management now in place.	3.27	1.23	33
The organization's key stakeholders are already identified.	3.79	.820	33
The organization has an established communication process to communicate with key stakeholders during a crisis.	3.21	1.22	33
Organizational crisis threats have been identified and are planned for.	3.03	1.16	33
The organization has a long-term commitment to crisis management.	3.12	1.24	33
We have learned from our last crisis.	3.64	.994	33
The public relations department has the necessary resources to manage a crisis tomorrow.	3.00	1.12	33
Our public relations department is absolutely ready for a crisis.	2.82	1.13	33
Our senior management team has the leadership and the vision to anticipate and plan for crises.	3.30	.952	33
Crisis Leadership Index**	3.35	.679	32

Responses were coded: 5 = strongly agree, 4 = agree, 3 = neither agree nor disagree, 2 = disagree, 1 = strongly disagree

**Average of the above 12 variables. Cronbach's alpha = .85

Table 2. Means and standard deviations for characteristics of crisis demand.

Variables	Mean	Standard Deviation	N
The public relations department has the authority and resources to move quickly and act decisively during a crisis.	3.28	1.22	32
The public relations department will be able to set the communication strategy for the organization during a crisis.	3.60	1.21	32
The public relations department values and uses two-way communication with the organization's key stakeholders.	3.81	1.15	32
The crisis public relations strategies match the day-to-day communication strategies of the organization.	3.59	.980	32
Developing and maintaining relationships with key stakeholders is an important part of the organization's culture.	4.19	.737	32
As a result of the 9/11 attacks the senior management team relies more on the public relations department to prepare for a crisis.	3.00	1.10	32
There is now a greater demand for public relations within our organization	3.00	.983	32
Crisis Public Relations Demand Index**	3.50	.720	32

Responses were coded: 5 = strongly agree, 4 = agree, 3 = neither agree nor disagree, 2 = disagree, 1 = strongly disagree

**Average of the above 7 variables. Cronbach's alpha = .80

Table 3. Percentages of crisis preparedness variables Before 9/11 Preparedness Index

Variables	**% Yes** (N=30)
Development of crisis scenarios	.33
Identification of crisis spokesperson	.81
Development of crisis response messages	.50
Media training for crisis spokesperson	.68
Crisis simulation exercises	.23
Involved local regulators in crisis simulations	.17
Have showed your crisis plan to your key stakeholders	.26
Conducted thorough reviews of crisis response system	.43
Implementation of a crisis issues anticipation system	.19
A crisis management plan	.57
A crisis management team	.67
Before 9/11 Preparedness Index**	.44

*1 = yes, 0= no

** mean score of "yes" responses to above 11 variables running from 0 to1.

Cronbach's alpha = .88

Table 4. Percentage of crisis preparedness variables After 9/11 Preparedness Index.

Variables	**%** **Yes** (N=33)
Updated Crisis Management Team*	.36
Updated crisis scenarios*	.00
Changed crisis spokesperson*	.27
Developed new crisis response messages*	.00
Conducted media training for crisis spokesperson*	.00
Conducted crisis simulation exercises*	.27
Contacted local regulators agencies*	.27
Discussed crisis plan with key stakeholders*	.30
Conducted a thorough review of crisis plan*	.21
Updated crisis issues anticipation system*	.21
Updated Crisis Management Plan*	.21
After 9/11 Preparedness Index**	.22

*1 = yes, 0 = no

** mean score of "yes" responses to above 11 variables running from 0 to1.

Cronbach's alpha = .82

Table 5. Pearson correlation coefficients for crisis leadership variables.

Variables	2	3	4	5	6	7	8	9	10	11	12	13
1. The public relations department has authority to make decisions in crisis.*	-.12 (32)	.23 (33)	.38^{b} (33)	.32 (33)	.33 (33)	.36^{b} (33)	.45^{a} (33)	.51^{a} (33)	.21 (33)	.32 (33)	.26 (33)	.62^{a} (32)
2. The organization's President/CEO should be visible at the crisis site.*	--	-.11 (32)	-.21 (32)	.20 (32)	.14 (32)	-.27 (32)	-.08 (32)	-.23 (32)	-.08 (32)	-.07 (32)	.01 (32)	.01 (32)
3. The organization's President/CEO shouldn't be the only spokesperson in a crisis.*		--	.33 (33)	.07 (33)	.24 (33)	.33 (33)	.22 (33)	.19 (33)	.26 (33)	.22 (33)	-.01 (33)	.41^{b} (32)
4. The organization has a multi-disciplinary crisis management now in place.*			--	.09 (33)	.31 (33)	.41^{b} (33)	.47^{a} (33)	.65^{a} (33)	.14 (33)	.19 (33)	.14 (33)	.55^{a} (32)
5. The organization's key stakeholders are already identified.*				--	.67^{a} (33)	.57^{a} (33)	.64^{a} (33)	.25 (33)	.44^{a} (33)	.40^{b} (33)	.61^{a} (33)	.70^{a} (32)
6. The organization has an established communication process to communicate with key stakeholders during a crisis.*					--	.66^{a} (33)	.66^{a} (33)	.38^{b} (33)	.37^{b} (33)	.44^{a} (33)	.27 (33)	.75^{a} (32)
7. Organizational crisis threats have been identified and are planned for.*						--	.65^{a} (33)	.50^{a} (33)	.56^{a} (33)	.53^{a} (33)	.62^{a} (33)	.81^{a} (32)
8. The organization has a long-term commitment to crisis management.*							--	.59^{a} (33)	.52^{a} (33)	.59^{a} (33)	.52^{a} (33)	.86^{a} (32)
9. We have learned from our last crisis.*								--	.23 (33)	.25 (33)	.35^{b} (33)	.64^{a} (32)
10. The public relations department has the necessary resources to manage a crisis tomorrow.*									--	.72^{a} (33)	.59^{a} (33)	.67^{a} (32)
11. Our public relations department is absolutely ready for a crisis.*										--	.49^{a} (33)	.72^{a} (32)
12. Our senior management team has the leadership and the vision to anticipate and plan for crises.*											--	.64^{a} (32)
13. Crisis Leadership Index**												--

*Responses were coded: 5 = strongly agree, 4 = agree, 3 = neither agree nor disagree, 2 = disagree, 1 = strongly disagree. **Average of the above 12 variables. Cronbach's Alpha = .85. ^{a} p<.01, ^{b} p <.05

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Table 6. Pearson correlation coefficients for Crisis Demand Index variables.

Variables	**2**	**3**	**4**	**5**	**6**	**7**	**8**
The public relations department has the authority and resources to move quickly and act decisively during a crisis*	.71[a] (32)	.59[a] (32)	.48[a] (32)	.26 (32)	.31 (32)	.19 (32)	.78[a] (32)
The public relations department will be able to set the communication strategy for the organization during a crisis.*	--	.52[a] (32)	.35 (32)	.34 (32)	.29 (32)	.14 (32)	.74[a] (32)
The public relations department values and uses two-way communication with the organization's key stakeholders.*		--	.53[a] (32)	.20 (32)	.41[b] (32)	.20 (32)	.76[a] (32)
The crisis public relations strategies match the day-to-day communication strategies of the organization.*			--	.33 (32)	.36[b] (32)	.30 (32)	.70[a] (32)
Developing and maintaining relationships with key stakeholders is an important part of the organization's culture.*				--	.32 (32)	.13 (32)	.50[a] (32)
As a result of the 9/11 attacks the senior management team relies more on the public relations department to prepare for a crisis.*					--	.56[a] (32)	.68[a] (32)
There is now a greater demand for public relations within our organization.*						--	.52[a] (32)
Crisis Demand Index**							--

*Responses were coded: 5 = strongly agree, 4 = agree, 3 = neither agree nor disagree, 2 = disagree, 1 = strongly disagree

**Average of the above 7variables.

Cronbach's Alpha = .80

[a] p<.01, [b] p <.05

Table 7. Pearson correlation coefficients for Crisis Preparedness Index (Before) variables.

Variables	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
1. Development of crisis scenarios*	.35 (30)	$.57^{a}$ (30)	.31 (30)	$.78^{a}$ (30)	.25 (30)	$.85^{a}$ (30)	$.52^{a}$ (30)	$.44^{b}$ (30)	$.48^{a}$ (30)	$.50^{a}$ (30)	$.82^{a}$ (30)
2. Identification of crisis spokesperson*	--	$.50^{a}$ (30)	$.54^{a}$ (30)	.28 (30)	.00 (30)	.29 (30)	.27 (30)	.23 (30)	$.40^{b}$ (30)	$.53^{a}$ (30)	.60 (30)
3. Development of crisis response messages*		--	$.36^{b}$ (30)	$.39^{b}$ (30)	-.09 (30)	$.45^{b}$ (30)	$.47^{a}$ (30)	.27 (30)	$.47^{a}$ (30)	$.57^{a}$ (30)	$.69^{a}$ (30)
4. Media training for crisis spokesperson*			--	.19 (30)	.10 (30)	$.41^{b}$ (30)	$.43^{b}$ (30)	.29 (30)	$.60^{a}$ (30)	$.62^{a}$ (30)	$.67^{a}$ (30)
5. Crisis simulation exercises*				--	$.39^{b}$ (30)	$.59^{a}$ (30)	.31 (30)	.18 (30)	.32 (30)	$.39^{b}$ (30)	$.64^{a}$ (30)
6. Involved local regulators in crisis simulations*					--	.14 (30)	.15 (30)	.04 (30)	.21 (30)	.32 (30)	.32 (30)
7. Had showed crisis plan to your key stakeholders*						--	$.54^{a}$ (30)	$.54^{a}$ (30)	$.53^{a}$ (30)	$.43^{b}$ (30)	$.76^{a}$ (30)
8. Conducted thorough reviews of crisis response*							--	$.51^{a}$ (30)	$.77^{a}$ (30)	$.48^{a}$ (30)	$.75^{a}$ (30)
9. Implementation of a crisis issues anticipation system*								--	$.39^{b}$ (30)	.13 (30)	$.53^{a}$ (30)
10. Had a Crisis Management Plan*									--	$.67^{a}$ (30)	$.80^{a}$ (30)
11. Had a Crisis Management Team*										--	$.77^{a}$ (30)
12. Before 9/11 Preparedness Index**											--

*1 = yes, 0 = no

** mean score of "yes" responses to above 11 variables running from 0 to1.

Cronbach's Alpha = .88

^{a} p < .01, ^{b} p < .05,

Table 8. Pearson correlation coefficients for Crisis Preparedness Index (After) variables

Variables	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**
1. Updated of crisis scenarios*	.23 (33)	.53^{a} (33)	-.13 (33)	.67^{a} (33)	.37^{1} (33)	.32 (33)	.22 (33)	.53^{a} (33)	.53^{a} (33)	.49^{a} (30)
2. Changed crisis spokesperson*	--	.29 (33)	-.03 (33)	.29 (33)	-.11 (33)	.27 (33)	.34 (33)	.34 (33)	.34 (33)	.01 (30)
3. Developed new crisis response messages*		--	-.11 (33)	.39^{b} (33)	.24 (33)	.34 (33)	.35^{b} (33)	.68^{a} (33)	.51^{a} (33)	.37^{b} (30)
4. Conducted crisis simulation exercises*			--	.29 (33)	.29 (33)	-.12 (33)	-.09 (33)	-.09 (33)	-.09 (33)	-.16 (30)
5. Contacted local regulators in crisis simulations*				--	.69^{a} (33)	.34 (33)	.02 (33)	.35^{b} (33)	.35^{b} (33)	.48^{a} (30)
6. Discussed crisis plan with key stakeholders*					--	.19 (33)	-.15 (33)	.18 (33)	.18 (33)	.38 (30)
7. Conducted thorough reviews of crisis response*						--	.30 (33)	.46^{a} (33)	.46^{a} (33)	.47^{a} (30)
8. Updated crisis issues anticipation system*							--	.46^{a} (33)	.46^{a} (33)	.02 (30)
9. Updated Crisis Management Plan*								--	.82^{a} (33)	.33 (30)
10. Updated Crisis Management Team*									--	.23 (30)
11 Before 9/11 Preparedness Index**										--

*1 = yes, 0 = no

** mean score of "yes" responses to above 11 variables running from 0 to 1.

Cronbach's Alpha = .81

^{a} $p < 0.01$, ^{b} $p < 0.05$

Table 9. Pearson correlation coefficients for Crisis Leadership, Demand and Preparedness Indexes.

Variable	Crisis Leadership Index	Before 9/11 Attacks Preparedness Index	After 9/11 Attacks Preparedness Index
Crisis Demand Index[1]	.65[a] (31)	.26 (29)	.44[b] (32)
Crisis Leadership Index[2]	--	.66[a] (29)	.45[a] (32)
Before Preparedness Index[3]		--	.48[a] (30)
After Preparedness Index[4]			--

[1] Responses were coded: 5 = strongly agree, 4 = agree, 3 = neither agree nor disagree, 2 = disagree, 1 = strongly disagree
Average of the above 12 variables, Cronbach's Alpha = .80

[2] Responses were coded: 5 = strongly agree, 4 = agree, 3 = neither agree nor disagree, 2 = disagree, 1 = strongly disagree
Average of the above 7 variables, Cronbach's Alpha = .85

[3] 1 = yes, 0 = no and mean score of "yes" responses to above variables running from 0 to1. Cronbach's Alpha = .88

[4] 1 = yes, 0 = no and mean score of "yes" responses to above variables running from 0 to 1. Cronbach's Alpha = .82

[a] $p< 0.01$, [b] $p < 0.05$

Table 10. Partial correlation coefficients for Crisis Leadership and Crisis Demand by Crisis Preparedness after 9/11 attacks, controlling for Crisis Preparedness before 9/11 attacks.

Variables correlated with Independent Variables	Control Variables	Partial correlation coefficient
Crisis Leadership Index*		
	Before 9/11 Attacks Preparedness Index***	.62 [a]
Crisis Demand Index**		
	After 9/11 Attacks Preparedness Index****	.57 [a]

*Responses were coded: 5 = strongly agree, 4 = agree, 3 = neither agree nor disagree, 2 = disagree, 1 = strongly disagree. Cronbach's alpha = .85

**Responses were coded: 5 = strongly agree, 4 = agree, 3 = neither agree nor disagree, 2 = disagree, 1 = strongly disagree. Cronbach's alpha = .80

*** 1 = yes, 0 = no and mean score of "yes" responses running from 0 to 1. Cronbach's alpha = .88

****1 = yes, 0 = no and mean score of "yes" responses running from 0 to 1. Cronbach's alpha = .82

[a] $p<.01$

Table 11. Correlated t-test for Crisis Preparedness Index, Before and After 9/11.

Variables	Mean	Standard Deviation	t value	df	Significance
Before 9/11 Attacks Preparedness Index*	.44	.31			
			4.7	29	p<.01
After 9/11 Attacks Preparedness Index*	.20	.23			

*1 = yes, 0 = no and mean score of "yes" responses running from 0 to 1.

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The Influence of News Coverage On Gulf War Syndrome

Robert L. Stevenson

UNC-CH School of Journalism
CB 3365 Carroll Hall
Chapel Hill NC 27599-3365

Voice: (919) 962-4082
Fax: (919) 962-0620
Email: robert_stevenson@unc.edu

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ABSTRACT

The Influence of News Coverage On Gulf War Syndrome

Robert L. Stevenson

UNC-CH School of Journalism
CB 3365 Carroll Hall
Chapel Hill NC 27599-3365

Voice: (919) 962-4082
Fax: (919) 962-0620
Email: robert_stevenson@unc.edu

This paper considers whether news coverage of Gulf War Syndrome (GWS) had any influence on calls made to a Department of Defense hotline from the time the hotline was introduced in early 1994 until 1999. News coverage is measured by the total number of words published in two major national newspaper, the Washington Post and USA Today, and the word equivalents presented on the evening newscasts of the three commercial networks and CNN Headline News during the same five-year period. A Granger Causality test is used, among other techniques, to test the assertion that media coverage was a factor in the proliferation of a strange illness that medical authorities could not define or find a cause of.

The paper finds no evidence that coverage was a factor in explaining the number of hotline calls or that it could be considered a product of the calls in the sense that both were driven by other independent factors, such as congressional hearings, release of findings of studies, or protests.

The results are interpreted as a caution against giving mass media too much credit or blame for social phenomena or calling on media to promote social change.

The Influence of News Coverage on Gulf War Syndrome

Introduction

When the Department of Defense announced in late December, 2001 that it would begin paying benefits to any Gulf War veteran diagnosed with ALS or Lou Gehrig's disease, it was the latest step – but probably not the last – in a decade-long controversy that brought together public policy, science, and journalism. The focus of the debate was whether some of the forces that had served in the Gulf War in 1991 had contracted some mysterious disease or diseases in the Gulf and whether the federal government was responsible both for failing to protect the troops and for treating victims. Claims of a government conspiracy to cover up its role were heard. On the other side, a common claim among skeptics was that the "disease" was psychosomatic if not outright imagined and, in fact, a product of inaccurate and sensational news reporting.

In this paper, we examine the evidence of a media role in Gulf War Syndrome (GWS), using time-series methods to evaluate the influence of national media coverage not on GWS itself but on a behavioral response to the issue. The behavioral response is daily calls to a toll-free number established by the Department of Defense in 1994 that present and some former service members could call for information and referral to a health facility. Our conclusion is that both calls and news coverage were driven by external events that increased the salience of GWS and that there is little evidence that the response to GWS concerns of calling the hotline was a product of "media hysteria."

Background[1]

The controversy over Gulf War Syndrome is one of those peculiar social phenomena whose origins are unknown and which, even a decade later, defy explanation. Almost from the time the Gulf War ended in 1991, rumors began about veterans of service in the Gulf who suffered from a variety of strange diseases. The first reports may have come from a unit of the Indiana National Guard that had been mobilized to serve in the Gulf. Symptoms were vague: fatigue, skin rash, headache, muscle and joint pain, and loss of memory. The Department of Defense – along with mainstream media – was slow to acknowledge the problem and skeptical. In April 1994, a National Institutes of Health committee concluded that "Gulf War Syndrome" was real but could not define the disorder or pinpoint its causes. When President Clinton offered veterans medical assistance for GWS in 1997, there was still no agreement on the existence of GWS and even less accord on its cause or causes. The Pentagon became an easy target of conspiracy theories.

Something as vague and mysterious as GWS was ideal for the rapidly expanding World Wide Web. A simple search of Google.com with the phrase "Gulf War Syndrome" in early 2002 produced more than 87,000 hits. They covered the spectrum from compilations of research studies and news stories to the kind of bizarre claims that one normally expects to find in supermarket tabloids. The American Gulf War Veterans Association (AGWVA) announced its purpose on its home page:

> To obtain treatment for those service members and their families who experience symptoms collectively known as the "Gulf War Illness." However, there is more to this issue than meets the eye. As this investigation into causation has now progressed

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[1] Even reconstructing the chronology can be difficult because of the volume of material and contentiousness of the issue. This relies on Cain (2001) and Mahoney (2001).

> into the arena of possible exposure to chemical and/or biological agents, radiation poisoning due to the use of depleted uranium and most disturbingly, the use of our fighting men and women as "Guinea Pigs" in medical experiments, the AGWVA has now added a second goal: To obtain justice and compensation for all those affected by these illnesses. (www.gulfwarvets.com)

Under a banner "Biological Black Magic" on its home page, *Nexus* magazine in Australia proclaimed: "Already, more than 10,000 are dead and 250,000 are sick from Gulf War Syndrome. What secret is so terrible (or embarrassing) that necessitates a cover-up of the facts?" (www.nexusmagazine.com)

Even the U.S. and allied governments established a number of websites or added special pages about GWS to existing sites. Some were informational, others political. Vermont's Independent (and independent) Senator Jim Jeffords noted: "Out of the 600,000 men and women who served our country in the Persian Gulf War, it is believed that over a thousand have come down with similar symptoms and illnesses which cannot be diagnosed or their origins found." His House colleague Bernie Sanders found the situation more dire: "Many years have passed since the Gulf War, and close to 100,000 of America's Gulf War veterans, including hundreds in Vermont, have become ill—experiencing a wide variety of medical symptoms which are now referred to as "Gulf War Illness."

If estimates of the number of veterans affected by GWS varied by a factor of 100 among Vermont's small congressional delegation, it is not surprising that some commentators were skeptical. Michael Fumento, a senior fellow at the Hudson Institute in Washington, became a one-man challenge to the GWS advocates. In a 1997 column in the *Wall Street Journal*, he wrote:

> For four years, politicians and the media have ignored the growing mass of scientific evidence that there is no such thing as Gulf War Syndrome. Rather than concede that

> the syndrome is nothing more than a combination of stress-related illnesses and the normal rates of disease among the 700,000 vets of Desert Storm, they have instead concentrated on anecdotes from former soldiers whom they dub experts. And the more incredible the tales, the greater their credibility.

Commenting on the December 2001, Pentagon decision to pay benefits to ALS veterans, Fumento (2001) argued that instead of a headline "Yet Again, No Link Found Between Gulf Service and Illness," major media misreported – again – the study on which the Pentagon decision was based:

> "VA, DoD find Lou Gehrig Risk in Gulf War Service," boomed the Copley News Service. "U.S. Reports Disease Link to Gulf War," proclaimed the New York Times. It's "A Measure of Vindication for Ailing Gulf Vets," declared the Raleigh News and Observer. All the major TV news broadcasts ran with the story about the new study, providing an identical spin.

Fumento was not alone in blaming media coverage. Elaine Showalter (1997, 5), a Princeton humanities professor, argued that GWS was the latest example of "hystory," the cultural narrative of "infectious epidemics of hysteria spread by stories circulated through self-help books, articles in newspapers and magazines, TV talk shows and series, films, the Internet, and even literary criticism." She described it as a widespread occurrence of war-related stress that in previous wars was called shell shock or post-traumatic stress syndrome. Another critic, sociologist Barry Glassner (1999, 158), argued that GWS became a vehicle for criticizing the Pentagon in the aftermath of a military action that was spectacularly successful and popular. "Throughout the mid- and late 1990s, GWS became *the* vehicle for criticizing the Pentagon.... I am concerned about the use of a syndrome to come to terms with shortcomings of the military. To use disease to talk about war is as problematic as the other way around."

All of these authors pit the somber skepticism of medical research and its failure to identify a specific illness or illnesses against the anecdotal testimony of real or imagined "victims" and the appeal of vague theories of cover-up and conspiracy. In this scenario, the media are at best guilty of uncritical reporting. At worst, they are active contributors to the problem.

Was Gulf War Syndrome, a particularly virulent example of "media hysteria"?

The academic and policy health industry has had a long-standing love-hate relationship with mass media. On one hand, there is a long tradition, supported by massive expenditures and research, of mobilizing the force of mass media to support variety of health-related goals. These range from anti-smoking, safe sex, and anti-drinking campaigns for teenagers, to programs promoting family planning, AIDS prevention, and improved agricultural practices in the Third World. On the other hand, the media are blamed for many of the same social problems: youthful violence, teen-age drinking and smoking, poor nutrition, and a variety of physical and social diseases.

On the whole, the evidence supporting a major media role in health-related problems and solutions is not impressive. Part of the problem is the difficulty of establishing causal relationships outside of a controlled laboratory environment; part of it is the complexity of social influence in which the media play some – but rarely a decisive – role. A substantial part of the problem is the difficulty of collecting appropriate data over a long enough period to sort out relatively long-term changes. The GWS controversy provides an unusual laboratory to study the linkage between journalism and health. The affair was long lasting and national in scope, and two key data sources were available for analysis.

Time-series analysis

Establishing evidence of causality is never easy, of course, especially when one tries to link media content to some individual cognitive, affective, or behavioral response. We usually settle for minimal correlations between individual characteristics and an estimate of media exposure or reliance. In some applications, we can then characterize the media to see, for example, whether TV programs children claim to watch frequently are particularly high in violence or whether the games and toys young children want are frequently advertised on their favorite Saturday morning TV shows. Almost always, the links are tenuous and evidence suggestive rather than convincing.

When we move to an aggregate level – increasingly popular in studies of mass media influence – the problem changes. When almost anything is measured repeatedly over time, the biggest correlation is with itself. The value of almost anything today can be predicted best by its value yesterday and maybe the day before yesterday. This is a problem in journalism, too, because both events and reporting tend to be copycats. A newsworthy event often begets similar events, and an unusual news story sends reporters out looking for similar stories. When two repeated events, represented by two time-series, rise and fall together, it is easy to conclude that one causes the other. And dangerous.

Even in the present study, auto-correlation is likely to be a problem and must be dealt with. An advantage of time-series analysis is that, once auto-correlation is dealt with, problems of time-order can be addressed directly and quite effectively. We can assess the evidence that A leads to B and compare it with the evidence that B leads to A. One possibility that must also be considered is that both A and B are driven by C, a third variable outside the model that influences both.

Many of the time-series methods developed for business and economic forecasting are more powerful than media studies require and can be inappropriate. ARIMA modeling, for example, decomposes time-series into different components, including a cyclical function associated with seasonal change or business cycles. Some media studies follow this model, but others, in contrast, focus on how a single issue rises in the media and then falls, often with a different media component in each side of the curve. A simpler and more appropriate general technique is Granger Causality.

Granger Causality

Granger Causality – indeed, all methods of time-series analysis – depend as much on definitions as on data. What does it mean to say, especially at an aggregate or social level, that one thing "causes" another? The general approach is that one first assesses the influence of the dependent variable itself at a number of lagged time points – often two, but there is nothing that prohibits one from choosing a different unit of time – then adds in the independent variable or presumed cause for those same lagged data points. One of the original formulations proposed comparing variance explained in the two models in a simple F-test. Thus, if a model with the dependent variable lagged plus an independent variable at the same lags explained more variance than the dependent variable with only itself lagged, one could argue that the independent variable "caused" or at least contributed to variance in the dependent variable. Later applications converted the F-ratios to correlations and squared correlations.

Granger causality – the verb is "to Granger cause" – was introduced as a tool for econometrics (Granger, 1969; see also www.sas.com/md/app/examples/ets/granger) but has been adapted for use in other social sciences (e.g., Reuveny and Kang, 1996;

Freeman, 1983). Its use in media-related studies is still rare (Stevenson, et al. (2000), but the growing availability of relatively long-term electronic archives of news and other social indicators such as opinion polls is likely to lead to explorations of its use in communication research. A shift in emphasis from individual-level studies of media effects, where evidence is minimal and rarely definitive – such as in the never-ending controversy about TV violence, Internet pornography, and smoking, among others – to aggregate-level studies – such as agenda-setting – also bodes well for development of the approach.

In the case of media coverage of GWS and calls to the GWS hotline, we can describe the overall correlations between media coverage and number of calls, then sort out the autocorrelations in the hotline calls series and add in media coverage to see how much variance the second series accounts for. It is also possible to treat media coverage as the dependent variable and proceed in the same way. The interpretation of evidence of causal influence in the opposite direction is not that calls to the hotline led to media coverage but that some other factor was driving both series but at different rates. One of the assumptions of under-acknowledged assumptions of social science generally is that all sources of variance are in the model or that the unexplained error variances are uncorrelated, which means that both independent and dependent variables are not being driven by an unmeasured variable outside the model. It is more than a question of theoretical underpinnings of a statistical test.

In studies of mass media influence, this becomes an interesting question: if we don't learn about the world via the mass media, how do we? How did callers to the hotline learn about it if not through the media? Or even, how did callers learn about the hotline if news reports mentioned GWS but not the hotline? Information floods a social system quickly and thoroughly and usually in ways that defy precise mapping. Time-series analysis of the right kind of data can detect some of the flow some of the time, but the evidence of causality is never unambiguous.

Data

Data for the project came from three sources. The first was a file that logged the number of calls made each day to the DOD hotline. The file begins on 3 January 1994, and our part of it continues until 10 February 1999. It is, of course, not the same as diagnosis or even claims of GWS, but it does represent a first-level behavioral response that we can test against media coverage. The file is not without problems. The most serious is that it was not maintained around the clock or on weekends or holidays. Since time-series techniques in general do not allow missing data, we first had to check whether the calls that were recorded were influenced by the lack of availability on some days. If, in fact, callers were encouraged to repeat an effort to reach the hotline later when it was open, we would expect a higher frequency of calls on Mondays and possibly on Fridays, reflecting an anticipation of the weekend as well. This was not the case. Table 1 shows the number of calls per day of the week. The number was relatively low on Mondays, grew substantially in mid-week, then declined. We interpret this as evidence that the log was not substantially influenced by limited availability of the hotline.

Table 1. Calls by day of week.

Day of week	Mean calls
Monday	31.05
Tuesday	36.06
Wednesday	35.93

Thursday	30.52
Friday	27.10

But, of course, we still have the problem of missing data. After consideration of a number of solutions – including aggregating calls, news coverage, and unit of analysis to a week rather than individual days – we decided to estimate the number of calls on each Saturday and Sunday (and the occasional public holiday) from numbers on either side of the missing days. This procedure can be done automatically in SPSS. Since the average numbers of calls in the original data set were not higher on days after days when the hotline was not in service, we concluded that our estimate of the number of calls that would have been made if the hotline had been available allowed us to create a usable time-series from the record of calls as it existed.

A second problem is that the hotline was set up to serve active-duty service personnel, those who had left service but qualified for medical benefits, and those who remained in reserve status. As a result, the pool of the original 600,000+ who served in the Gulf became smaller during the course of the study. The original file contained a record of 43,571 calls. The analysis uses that file augmented by estimates for days when the hotline was not available.

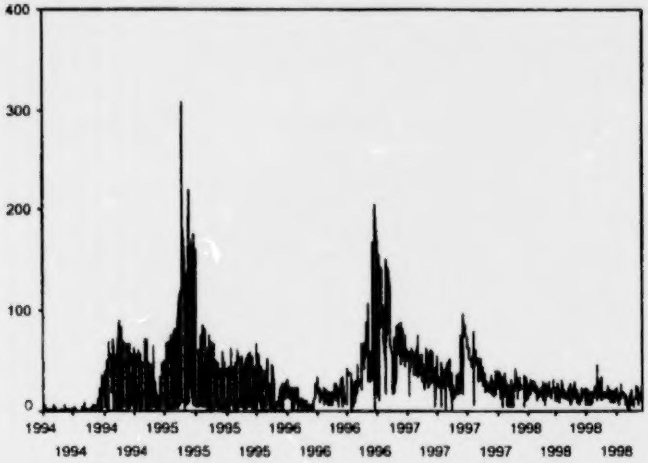
Media coverage data came from two sources. From online archives, we retrieved every story that contained the words "Gulf War Syndrome" or "GWS" in two national newspapers, the *New York Times* and *USA Today*. The two are virtually the only national dailies in the United States (the *Wall Street Journal* is a third but is not directed to a general audience). The *Times* is reasonably described as a serious newspaper of record that influences coverage in many regional and local papers. *USA Today* is about as close to a "popular" national daily as one can find in the country. Extending the search to other papers was either impossible – the various military service "Times" were unavailable – or unnecessary since most regional and local dailies take their cues from the national media.

We searched the Vanderbilt TV news archive for the same material and recorded stories of GWS in broadcast seconds. The online archive contains abstracts of the three major commercial network evening newscasts and a 30-minute equivalent from CNN headline news. This obviously did not represent all coverage of GWS, but these major national media served as an index of media attention to GWS issues. To combine print and broadcast data, we converted the broadcast times to word equivalents, using the more or less common industry standard that one minute of broadcast is equivalent to 200 words.

Results

The final data set consisted essentially of two variables: the number of calls made to the GWS hotline per day over a five-year period with estimates inserted for weekends and holidays; the amount of coverage of GWS major national media over the same period measured in words or word-equivalents of broadcast time. The first thing one notices is how little coverage there was. In the entire period of 1,865 days, the two major national newspapers covered GWS on only 89 days (4.8%), national television news provided coverage on even less, 48 days (2.8%). There was little overlap; on only five days out of the entire period did both print and TV cover the story. Any national media coverage occurred on only 132 days (7.1% of days).

Graph 1 shows, in very condensed form, the daily frequency of hotline calls over the entire period. There are two clear spikes. The first, in mid-1995, occurred at the time of several public events that helped drive the issue into the news. They included a story on CBS's "60 Minutes" program about GWS, a speech by President Clinton to the VFW, and release of one of the first major research studies. A second spike, in late 1996, coincided with congressional hearings and release of a Department of Defense study about possible effects of the destruction of a large Iraqi stockpile of poison gas munitions after the war ended.


Graph1. Daily calls 1994-99

Graph 2 shows daily media coverage over the same period of time. The scales are different – the graph of calls uses the number of calls per day to the hotline, while the media graph is the daily sum of words in the two national newspapers plus the word-equivalent of time on the national newscasts – but informal comparisons are possible. A trend is harder to detect in the media chart because each vertical line represents a day on which GWS was covered, but most days had no coverage, so the value is zero. The media clearly gave a lot of attention to the second period – when the story focused on the possibility that GWS was a product of destruction of Iraqi stocks of poison gas weapons – but missed the earlier combination of events that apparently influenced many veterans to call the hotline. If the height of the spike and density of the curve are taken as measures of value of the two factors, one can conclude that the events in 1995 were decisive for Gulf War veterans but that the media missed the story.

There are implications from this in the analysis. Instead of a steady time-series that rises and falls, media coverage is more of an occasional burst of attention preceded and followed by silence. This, of course, is a general criticism of American journalism: in the media world, events arise quickly without warning, dominate the public agenda briefly, and then disappear. Steady coverage of even high-profile events is rare. A long-term time-series that is at zero for extended periods with rare spikes is not likely to produce a clear relationship with another time-series that follows a steadier pattern of rise and fall. Nevertheless, we can begin the analysis by looking at the number of calls before, during, and after the rare days of media attention.

Graph 2. Daily news coverage, 1994-99

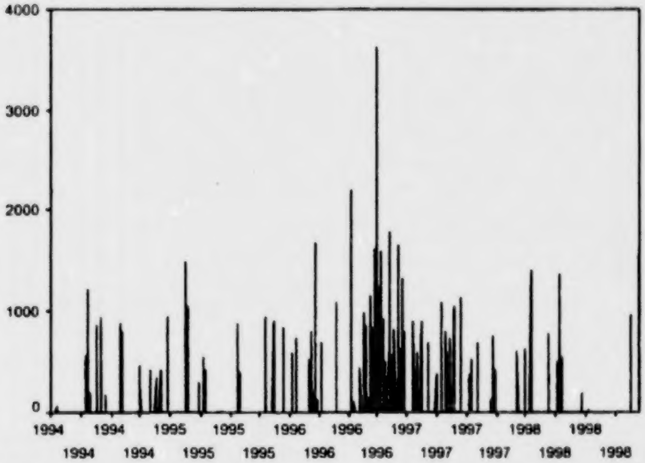


Table 2 shows the mean number of calls two days and one day before and after media coverage and on the day of coverage itself. Calls clearly increase at this time (the average for the entire five-year period is 31.62), but in ways that are puzzling. Calls *increase* after newspaper coverage, but an increase in calls *precedes* television coverage. When national media coverage in either medium is considered, the data show an increase both before and after. The first interpretation is that calls lead to TV coverage, not the other way around. The second is that newspapers may influence the number of calls as well as be a product of it.

The explanation, which will be pursued further, may be a product of two factors. One is the difference in response time of the two media; the other is the nature of news coverage in general. Imagine a typical event that precipitates national news coverage – a congressional hearing, release of a major research study, a large-scale protest. In most cases, the event will make the network evening news on the day it takes place. Newspaper coverage, however, will come on the following day. Both of the national papers analyzed here are morning papers (as are most newspapers now) and rarely anticipate the event or give it more than cursory advance coverage. News is what has happened, rarely what will happen.

Although all of the theories of media influence assume necessarily that media have some power to influence individual and collective behavior, the assumption that they start each day with a blank slate and then shape the public agenda is unrealistic. Events outside the control of the media drive almost all news coverage, and the media's power to influence them is circumscribed at best. As we have seen from several of the commentaries on GWS – and can demonstrate for ourselves in a quick search of the Internet – most of the action takes place outside of media attention: organizations of interested parties, narrowly targeted publications, and increasingly the Internet itself through email, bulletin boards, and specialized web sites. This kind of activity feeds both the behavioral response and public and media attention. Special-interest activity is fast and operates below the radar of major media, as was demonstrated in the WTO protests in Seattle and in other recent protests. The mainstream media, rather than shaping public opinion and encouraging a behavioral response (such as calling the hotline), act late and usually in response to activities of even slower traditional institutions. By the time the research report is released or the hearings held, the activists have already acted, to a large degree shaping the event and producing the response of the small but interested audience independently of the media.

Table 2. Mean calls before, during, and after media coverage.

	Television	Newspaper	Either medium
2 days before	54.04	48.03	49.43
1 day before	59.46	49.29	52.65
Day of coverage	55.63	49.46	50.64
1 day after	49.67	50.74	49.37
2 days after	42.40	50.36	47.23

In time-series studies, a big problem is colinearity or correlation of a variable with itself over time. In most surveys of individuals, there is too little correlation; in studies of a single variable over time, there is too much. Not always, of course, but typically, over time the correlation of one variable with another is also high. When events rise and fall together, it is easy to conclude that they are linked, that one leads to the other. The critical eye can be a poor judge. In this study, the numbers of calls to the hotline and media coverage do seem to rise and fall together, at least at times. However, the sporadic nature of media coverage suggests that this will not be a clear-cut relationship even when we begin to sort out time order to see which variables leads and which follows.

In fact, the overall autocorrelation of the calls variable is relatively low – .743 for the correlation between each day's calls and the calls one day earlier, .552 for a two-day lag. The correlations in media coverage are even lower -- .185 for a one-day lag, .051 for two days. This reflects the episodic nature of news coverage. Events in the news suddenly appear and disappear with equal speed. The simple synchronous correlation between calls and media coverage is also remarkably low by the standards of typical media/opinion/behavior studies -- .134. This serves as a warning that once we start sorting out the elements of the relationships between the two variables over time, evidence of media influence may be difficult to establish.

Granger causality begins with the argument that many time series can be predicted by their own previous values. Once the influence of the lagaged dependent variable is accounted for, we can enter the presumed causal variable into the equation to see how much additional variance is accounted for.

The procedure is quite simple. Once lag variables for the key factors are calculated, we run two multiple regression equations. The first uses one- and two-day lags of the dependent variable (number of calls to the hotline) as predictors. Then a second equation is calculated, adding in the independent variable (media coverage) for the same two lags. Table 3 shows the results of this exercise, using both television and newspapers together and each medium separately.

Table 3. Influence of media lagged coverage on hotline calls (R^2s).

	Calls lagged	Calls lagged + media lagged	Media influence
TV	.323	.344	.021
Print	.323	.324	.001
Both	.323	.336	.013

The table shows minimal influence of mass media coverage on the number of calls to the hotline one and two days later. Only television coverage registers any influence – 2% -- and the combination of print and television reduces the proportion of variances explained to barely more than one percent. There is, of course, the possibility that the causal direction is reversed: calls → coverage. This does not imply an interpretation that news coverage was influenced by the number of individuals calling the hotline each day but rather that both were driven by an external and unmeasured event outside the model. The obvious event is the series of public events themselves – congressional hearings, release of research reports, organized protests – that led to both calls and coverage. Time-series assumes there are no unmeasured variables but, in reality there almost are, and they; can drive both an immediate response that is not filtered through the media and media attention. If we see evidence that calls precede media coverage, we can interpret it as evidence that the external events are driving both but that the influence on calls is faster. It could move faster because of the informal networks of individuals created specifically because of GWS and their networks of communication outside of the traditional media. Specialized communication, especially in the age of the

Internet, moves faster than the news, which is still constrained by technical and professional considerations – the news has to be prepared and made available as part of a complex system of manufacturing and delivery.

Table 4 examines the possibility that media coverage follows calls, not in a direct causal sense but in the indirect flow from events to both news coverage and calls to the hotline.

Table 4. Influence of hotline calls to media coverage (R^2s).

	Media lagged	Media lagged + calls lagged	Calls influence
TV	.029	.042	.013
Print	.002	.013	.011
Either medium	.035	.054	.019

Although the numbers are small, the bottom line of Table 4 shows an R^2 increase of 54% when calls are added to the model, while the comparable numbers in Table 3 show an increase of only 4% when media are added to calls. This argues for an interpretation that media coverage is more a mirror a reflection of events than vice versa. In both directions, as we noted in the changes in number of calls before, during, and after coverage, there is some covariance between calls and coverage, but the relationship is small, and the direction is stronger in the model that defines journalism less as an instrument of social change than as its recorder.

Discussion

In communication studies in general, the big question is not whether evidence supports assertions of media influence but why the evidence is so weak. The world we experience personally is so small and constrained that the media are almost the only link to what is happening beyond our narrow vision. If so and if the media have the power to shape that vision, it ought to be easy to find evidence of it. But it rarely is. Individual-level studies almost always operate with minimal statistical findings and take anything beyond chance as evidence. It is a low threshold. At the aggregate level, the correlations usually are much larger, and a casual observer is likely to take the simultaneous rise and fall of indicators as evidence of cause and effect. This can be as misleading as generalizing from a handful of examples.

Time-series analysis is good at injecting a sobering note to the exuberant interpretation of simple correlations or generalization from a handful of exceptional examples. In general, the role of media in public opinion then becomes limited, and the direction of influence is not always a simple one-way arrow. Reality is complex and can drive both media coverage and a behavioral response. In many cases, media serve more as a transmission belt for information than as a refracting mirror that distorts as it transmits. In this study, we have found no evidence that media coverage had a substantial or even a clear-cut influence on one aspect of GWS – the first step of calling a Department of Defense hotline. Within that general conclusion, a number of points are worth making:

- The national news system is fast and efficient, but it leaks. The Internet and a wide range of specialized media probably are more efficient and faster than national newspapers and national TV in transmitting information about something of great interest to a few and of limited interest to most.

- There is always a danger in arraying a handful of unusual cases and inferring that they somehow represent a broader population. Journalism is often accused of focusing on the exceptional event and the short-term influence rather than the general trends that affect us individually and change society slowly but permanently. By definition, it tends to do that and is, therefore, a poor mirror of social change as well as a convenient scapegoat for the failures of institutions with the power and responsibility.
- The scattershot nature of news reporting reduces its influence. It is, as Walter Lippmann observed early in the 20th century, a restless searchlight that moves from one event to another, from one crisis to another, without illuminating any in a consistent, sustained way. He argued that the light was not bright enough or steady enough to help much in the complex work of the world. That has not changed.
- The media are probably not powerful as instruments of social change. They do not cause social ills and are a weak tool to mobilize to solve problems. They have a role to play in modern democracies, but those who want to blame the media for social problems or mobilize them to solve them should not expect much.

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Running Head: Alcohol Advertising

Alcohol Advertising Exposure and Perceptions: Links with Alcohol Expectancies and Drinking or Intention to Drink in Teens and Young Adults

Kenneth Fleming
University of Missouri

Esther Thorson
University of Missouri

Charles Atkin
Michigan State University

Correspondence to the first author:
Center for Advanced Social Research
School of Journalism
University of Missouri
Columbia, MO 65211
Tel: (573) 884-6563
flemingk@missouri.edu

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Alcohol Advertising Exposure and Perceptions: Links with Alcohol Expectancies and Drinking or Intention to Drink in Teens and Young Adults

Societal and regulatory responses to alcohol advertising

For many years, self-regulation kept distilled spirits advertising off commercial airwaves. Probably as a result, the market share of distilled spirits has experienced a steady erosion. For example, the sales volume of Seagram's 7-Crown Whiskey dropped 53% from 1980 to 1996 (Advertising Age, 11/1/97). Realizing that its share of market would continue to erode without a mass appeal to the market, particularly to youthful drinkers who show some of the lowest levels of distilled spirits consumption, the distilled spirits industry began a quiet campaign to return to the television airwaves in June 1996. At that time, the networks had refused spirits advertising, but many cable television and local stations accepted it. Although the total number of media dollars spent has remained low, it was clear that distilled spirits companies were simply waiting for the social and regulatory environment to become more friendly to their incursion into broadcasting (e.g., Advertising Age, 7/21/97; 11/17/97; 12/1/97).

In 1997, the FCC showed interest in regulations that could have ultimately disallowed the advertising of distilled spirits on television (e.g., Advertising Age,11/10/97). There was considerable fear by many of the alcohol-players, however, that if distilled spirits could not advertise on television, then there would be little to prevent the regulatory removal of beer advertising from the airwaves (the same argument would apply to wine and wine coolers, but these products make up such a tiny fraction of television advertising that they are not relevant players). This fear may have emanated from the fact that the previous fall, the beer industry's advertising on MTV was clearly watched mainly by juveniles (Advertising Age, 9/96). Because it appeared that this group was being targeted, all beer advertising had disappeared from MTV within months of the first reports (Advertising Age,12/23/96; 5/26/97).

In March 2002, it was announced that NBC had signed an advertising deal with the spirits marketer Diageo to begin advertising of distilled spirits. Within days, however, pressure from both government and interest groups proved sufficient for NBC to announce that it would not begin such advertising (*USA Today*, March 14, 2002). In an odd juxtaposition of events, the National Center on Addiction and Substance Abuse (NCASA) at Columbia University released a report that suggested youths aged 12 to 20 consume 25% of all alcohol in the U.S. (MSNBC news, February 26, 2002). Although this estimate was criticized by the Distilled Spirits Council of the U.S., that organization admitted that a better estimate would still be 10%, indicating, of course, that a sizeable amount of alcohol is consumed illegally by under-aged youth. Whether the correct estimate is 10% or somewhat higher, there can be little doubt that teen consumption of alcohol is an important societal issue. And there has been a long history of the question of whether and to what extent alcohol advertising, in all its diversity of forms, plays a role in drinking patterns of both adults and youth. Even without distilled spirits being advertising via broadcast, the extent of beer advertising in all media, but certainly in television, is a potential mass media cause worthy of scrutiny.

Focus of this paper

This paper tests a model of alcohol advertising effects that suggests drinking or intention to drink is related to amount and type of alcohol advertising one is exposed to, as mediated by perceptual responses to the advertising and expectancies about alcohol.

In its conception, the model owes a great deal to the work of Austin and her colleagues (Austin & Johnson, 1997b; Austin & Knaus, 2000), as well as to the research on alcohol expectancies (Christiansen, Smith, Roehling, & Goldman, 1989). The model is tested in two very important age cohorts (Atkin et al., 1984), those aged 12 to 20, for whom alcohol consumption is illegal, and young adults, 21-29. What we wanted to ascertain was whether the same pattern of information processing of advertising would operate for both groups, and whether there was indication that advertising does play a role for both groups. Although single point in time surveys cannot demonstrate causal links (Kubey & Csikszentmihalyi, 1990), they can establish or disconfirm the first step in causality, namely correlations even after extensive controls are applied. These findings provide an important commentary on the issue of alcohol advertising and where it should be allowed to appear.

Literature Review

Effects of Advertising on Ad Perceptions, Alcohol Perceptions, and Consumption

Alcohol advertising is a significant source of communication about alcohol. According to Cassewell (1995), since the 1970s and 1980s advertising for all products (including beer and liquor) has become less product-oriented and more directed towards people's desires and dreams. As a result, the liquor industry no longer sells bottles or glasses of liquor. It now sells fantasies and lifestyles that are psychologically attractive to those who are exposed to alcohol advertising. Advertising messages appeal to consumers not because of the products they promote but because of the people who drink alcohol in the advertisement and because of the lifestyles – usually associated with wealth, prestige, success, or social approval. "Characters in ads are primarily youthful, physically attractive, and well-to-do, and are often depicted as successful, manly or womanly, happy, adventurous, elegant, and sophisticated" (Atkin, Hocking, & Block, 1984). Therefore, "the brand becomes symbolically invested with the positive attributes of the life style itself" (Casswell, 1995, p. 193). In addition, alcohol advertising often uses images that appeal to kids (e.g., Budweiser's talking lizards, Budweiser's Spuds MacKenzie dog). Consequently, it is possible that the portrayals of alcohol and alcohol drinking contribute more or less to the overall social climate that tends to normalize and sanitize alcohol use. This effect of alcohol advertising, we argue, is likely to be found in teenagers and young adults, particularly in their reception of alcohol advertising messages and hence their perceptions and expectancies about alcohol. From the perspective of uses and gratifications, Atkin et al. (1984) argued that teenagers particularly welcome information about a substance with which they are experimenting and likely acquire more ideas and images from alcohol advertising messages.

In early survey studies, Atkin and his colleagues (Atkin, Neuendorf, & McDermott, 1983; Atkin & Block, 1981; Atkin & Block, 1983; Atkin, Hocking, & Block, 1984) showed small but significant correlations between exposure to alcohol advertising and drinking. Aitken and his colleagues (1988) showed that young drinkers who were more exposed to alcohol ads were more accurate in identifying brands of beer when shown alcohol ads with masked brand names. Wallack, Cassady, and Grube (1990) found that awareness of beer advertising was significantly correlated with drinking beliefs, knowledge of beer brands and slogans, and intentions to drink among teenagers. Grube and Wallack (1994) presented evidence for a complicated causal model of exposure to advertising, beliefs about alcohol, and drinking intention. Children who were more aware of beer ads had more favorable beliefs about drinking, intended to drink more frequently than adults, and had better knowledge of beer brands and slogans. Furthermore, there have been a handful of experimental studies of responses to beer ads that show significant and immediate impact on attitudes and predicted future use of alcohol (Slater, Rouner, Domenech-Rodriguez, Beauvois, Murphy, & Leuven, 1997).

In contrast, some studies have shown that, when demographic variables are controlled before the contribution of exposure to advertising is examined, there is little or no relationship between exposure and problem drinking (Strickland, 1983). It should be noted that other than the recent work of Grube, all of the linkages cited above were correlational. Of course, because they do not provide time order information, no causal inferences are appropriate. Grube's work has been largely cross-sectional as well, but recently, he has applied structural modeling to the data (Grube & Wallack, 1994), and this strengthens the argument of causal directionality from advertising to effects. Further, econometric and time series studies of aggregate data concerning spending on alcohol advertising and per capita alcohol consumption do not show much evidence for effects of advertising (Smart, 1988).

Mediation model of alcohol advertising effects

The influence of mass mediated advertising on alcohol consumption in the literature cited above has generally followed a simple model of causation, with media exposure affecting mediated learning and knowledge (Atkin, Hocking, & Block, 1984). But in studies of the impact of news on knowledge, attitudes, and behavior, it has become clear that this simple model is unlikely to be correct. Realizing the limited nature of measuring media use in terms of exposure, researchers have added measures of attention and demonstrated that they are more effective predictors of political knowledge (Chaffee & Schleuder, 1986; Chaffee, Zhao, & Leshner, 1994). Contending that the association between media use and media effects is more complex than one might imagine, scholars have employed an assortment of mediating or conditional measures.

For example, Neuman, Just, and Crigler (1992) suggested that cognitive ability is an important mediator of political knowledge, and Hollander (1997) posited that the relationship between media use and knowledge is mediated by media use expectations. The mediating variable "reflective integration" has been shown to be positively associated with newspaper and TV news use (McLeod et al., 1996) and as a mediator between network diversity and participation (Sotirovic & McLeod, 1998).

The idea that media exposure is a critical first step but that the mediating information processing stages that people exhibit subsequently are critical for accurate predicting of outcomes reaching all the way to behavioral stages has certainly entered health communication theory. One of the successful models that predict children's and teenagers' decision making about alcohol use is the Message Interpretation Process (MIP) model (Austin & Johnson, 1997b; Austin & Knaus, 2000). The MIP model theorizes that precursors of drinking behavior, such as beliefs about media portrayals' desirability, play an important role in children's development of expectancies about alcohol drinking. The process of accepting or rejecting a television stimulus is a dynamic one in which children actively process the content of the message through comparison of real-world and television-world reference groups. First, children perceive the role models in alcohol ads as desirable (i.e., they are strong, popular, smart, and good-looking). Then, they identify with these role models (i.e., I wish I could live like people in ads; I wish I could be like them). Next, they develop positive expectancies about alcohol (i.e., drinking makes you happy, helps you fit in, helps you make friends, helps you have fun, makes sports more fun, and etc.). Finally, according to Austin and her colleagues, identification and desirability of portrayals, in turn, influence a child's alcohol-related expectancies -- anticipations of positive social benefits perceived to be associated with drinking alcohol. Austin and Knaus (2000) specifically showed that as grade increased from third to sixth to ninth, desirability of ad portrayals, identification with the models, expectancies, risky behavior (how often the children reported using cigarettes and alcohol), and what they called "pre-drinking behavior" all increased. (Pre-drinking behavior was measured in terms of the children choosing promotional products with beer logos on them over products with soda logos on them.) The authors suggest that these findings show that perceptions established by sixth grade are likely to feed into later alcohol use. One of the implications of their work is that exposure to alcohol advertising's positive images does impact children's drinking. In addition, the MIP model suggests that, in predicting adolescent drinking behavior (or intentions to drink as measured in this study for those aged 12 to 20), attention needs to be paid to the psychological factors or processes that are as important as pharmacological actions in teenagers' and young adults' decision making of alcohol drinking (Christiansen et al., 1989).

It is important to note that Austin and Knaus (2000) employed the concept of alcohol expectancies. Grube et al. (1995) showed that demographic variables like age, gender, socioeconomic status, parent's education, religiosity, and ethnicity predicted 16% of the variation in how much and how often youth drank. But they then went on to show that positive and negative alcohol expectancies accounted for 21% of the variation in youth drinking, above and beyond the effects of the demographic variables. This demonstrates that alcohol expectancies are important predictors of alcohol consumption. Moving toward over-time studies which are necessary to establishing causal relationships, Stacy, Widaman, and Marlatt (1990), Christiansen, Smith, Roehling, and Goldman (1989), and Smith, Goldman, Greenbaum, and Christiansen (1995) all provided longitudinal data. The Smith et al. study examined adolescent expectancies and alcohol consumption three times over three years. Youth expectancies for social facilitation from alcohol predicted subsequent drinking levels quite accurately. The Christiansen et al. study showed that expectancy scales such as "Alcohol can enhance or impede social behavior" and "Alcohol improves cognitive and motor functioning" were strong predictors of adolescent drinking behavior, and the expectancy scale "Alcohol can enhance or impede social behavior" was a powerful predictor of adolescents' problem drinking onset, suggesting that the more serious problem drinkers hold this expectancy the strongest.

These studies suggest that the effects of advertising are mediated through some critical beliefs and expectancies about alcohol, when teenagers and young adults are exposed to alcohol advertising. Our proposed model is presented in Figure 1. As can be seen, after demographics are controlled, exposure to alcohol advertising is considered the first step in the mediation process. From the literature it is not clear which advertising medium will have the most impact on teenagers and young adults in their message interpretation process. Therefore, we examine four most likely media sources of alcohol advertising: magazines, television, radio, and outdoor billboards. We distinguish between TV beer advertising and TV liquor advertising, simply because of the controversial nature of the latter, as mirrored in the recent news.

The next step is hypothesized to be responses to alcohol advertising: liking for it, and perceptions that it provides such information as helping you find out about new brands of liquor, which drinks are most popular, which brands impress other people, how people use alcohol in their lives, which brands taste best, and whether drinking liquor is romantic. Beliefs about what kind of information ads provide then influence positive expectancies about alcohol: people who drink alcohol have more fun and excitement than those who do not drink, people get along better when they have had a few drinks, and drinking alcohol is a good way to escape the hassles of everyday life. These positive expectancies are expected to lead to intentions to drink for teenagers and more alcohol consumption for young adults. In assessing drinking behavior, the critical variables to be predicted are a single measure of how often one drinks alcohol as self-reported by young adults aged 21 to 29, and an additive index of intentions to drink beer and liquor as an adult as indicated by teenagers aged 12 to 20.

Based on the above literature review and the model in Figure 1, we articulate the following hypotheses:

H1: Higher exposure to alcohol advertising will have a direct impact on attitudes toward alcohol advertising and perceptions of the information it provides.

H2: Attitudes toward alcohol advertising and perceptions of the information it provides will have a direct impact on positive expectancies about alcohol drinking.

H3: Alcohol expectancies will have a direct impact on self-reported drinking (young adult sample) and on intention to drink (under aged sample).

H4: The impacts of exposure to alcohol advertising, attitudes toward alcohol advertising, and perceptions of alcohol advertising on drinking and intention to drink will be indirect, and mediated by positive expectancies about alcohol as described in Figure 1.

Method

Sample

The hypotheses were tested with a secondary analysis of the data collected from two national telephone surveys that were administered to 608 teenagers aged 12-20 and 612 young adults aged 21-29 in the summer of 1999. The surveys were funded by a grant from the Robert Wood Johnson Foundation. A professional survey center at a midwestern university conducted both surveys at the time when liquor commercials were appearing more frequently on both local stations and cable channels. For both surveys, the sample was randomly drawn from residential households within the United States using random digit dialing (RDD) methodology. The Troldahl-Carter-Bryant method was used for selection of respondents to ensure a balanced group of teens and young adults in terms of age, gender, and other personal characters (Lavrakas, 1993). Computer Assisted Telephone Interviewing (CATI) software was used in the selection of respondents and the data collection process. Parental permission was acquired prior to interviews of the under aged sample. The university's Institutional Review Board approved both survey instruments.

Measurement

Dependent variables. The dependent variables chosen in this study were designed to measure perceptions, attitudes, expectancies, and behavior relevant to alcohol advertising, intention to drink of teenagers, and alcohol consumption of young adults. Perception of alcohol advertising was measured from respondents' reception of alcohol advertising messages that consisted of Enjoy Seeing Liquor Ads, Liquor Ads Are Informative, and Liquor Ads Show Tasty Brands. Enjoy seeing liquor ads was a single question item: "How often do you enjoy seeing liquor ads?" so was Liquor ads show tasty brands: "How often do liquor ads tell you which brands of liquor taste best?" (See Appendix for question wording and scale of measurement). Liquor ads are informative (Cronbach's alpha = 0.68, $p < .0001$ for the teenagers; Cronbach's alpha = 0.68, $p < .0001$ for the young adults) was measured by three items: "How often do liquor ads show you which drinks are most popular these days?" "How often do liquor ads help you find out about new brands of liquor?" and "How often do liquor ads help you find out which brands impress other people?" The response categories for all the five question items were (1) never, (2) seldom, (3) sometimes, and (4) usually.

The expectancy scale, Positive expectancy about alcohol drinking (Cronbach's alpha = 0.62, $p < .0001$ for the teenagers; Cronbach's alpha = 0.66, $p < .0001$ for the young adults), was measured by three items: "People who drink alcohol have more fun and excitement than those who do not drink," "People get along better when they've had a few drinks," and "Drinking alcohol is a good way to escape the hassles of everyday life." The response categories for the three items were (1) strongly disagree, (2) disagree, (3) neutral, (4) agree, and (5) strongly agree.

Two behavioral measures were used in this study to assess the teenagers' affinity for alcohol and the young adults' alcohol consumption. Because it was illegal for the under aged sample to consume alcohol, actual drinking was not measured. Instead, two questions regarding their intention to drink were used: "When you're older, do you intend to drink beer?" and "When you're older, do you intend to drink liquor?" An additive index of Intention to drink was then created by assigning the value of "2" to those who answered "yes" to both questions, "1" to those who intended to drink either beer or liquor, and "0" to those who said "no" to the two questions. 49.7 percent of the teenagers surveyed intended to drink beer and 49.2 percent to drink liquor when they became older. As for the young adults, the behavioral measure was labeled as Alcohol consumption: "About how often do you consume alcohol?" It was coded as (0) less than once a month, (1) 1 to 3 days a month, (2) 1 to 2 days a week, (3) 3 to 4 days a week, (4) 5 to 6 days a week, and (5) everyday.

Independent variables. Five independent variables were used to measure exposure to alcohol advertising. Respondents were asked to indicate how many magazine liquor ads they notice in a typical week, how many liquor commercials they hear on the radio in a typical week, and whether they notice any outdoor billboards that advertise liquor products when they are walking or riding around town (coded as yes = 1, no = 0). In addition, both teenagers and young adults were asked how many televised beer commercials they see in a typical week, and how many televised liquor ads they see in a typical week. (Liquor was defined as distilled spirits and carefully explained to all respondents so that they could distinguish between beer and distilled spirits.) The response categories for these question items were (1) none, (2) just one, (3) a few, (4) some, and (5) many.

Demographic control variables. Studies on alcohol consumption specifically show the consistent effects of demographics, personality, and behavioral variables on use of alcohol (Clark & Prolisko, 1979; Furst, 1983; Gaines, 1979; Gusfield, 1979; James et al., 1993; Jessor, 1979; Lastovicka et al., 1987; Klepp et al., 1991; Kraft, 1979; Mayton et al., 1991; Rivers, 1994; Austin & Knaus, 2000). The close links among use of alcohol, demographics, attitudes, and perceptions about alcohol suggest that it is critically important to remove the effects of demographics and lifestyle variables before the impact of media variables is examined (See also Rodney, Mupier, & Crafter, 1996 for a review).

In this study, age was measured as the exact age reported by the respondents. Gender was coded as male = 1, female = 0. To measure education, respondents were asked to indicate the highest level of education they had completed on the following scale: (1) less than high school, (2) high school graduate or general equivalency diploma, (3) some college but no degree, (4) junior college or two-year degree, (5) college degree, and (6) graduate degree or higher. City size was measured by asking respondents if they lived (1) on a farm, (2) in a rural area but not on a farm, (3), in a small town of less than 10,000 people, (4) in a medium-sized town of between 10,000 and 39,999 people, (5) in a suburb or small city of between 40,000 and 149,999 people, or (6) in an urban area of over 150,000 people. Respondents were also asked to estimate their total annual household income (for the teenagers, the estimate was their parents' annual income; for the young adults, it was their own income in a year), using (1) less then $10,000, (2) at least $10,000 but under $20,000, (3) at least $20,000 but under $30,000, (4) at least $30,000 but under $50,000, (5) at least $50,000 but under $100,000, (6) at least $100,000 but under $150,000, and (7) $150,000 or more. Having a friend or relative with an alcohol problem was dummy code as (1) yes and (0) no. In addition, we included a measure of religious belief and practice as part of the statistical control because it was believed that people with strong beliefs in religion might not drink alcohol at all or drink less than those who do not have religious preferences (Austin & Knaus, 2000). The measure was a single item: "How often do you attend worship services?" It was coded as (1) never, (2) rarely, (3) several times a year, (4) once a month, (5) once a week, and (6) more than once a week.

Statistical Analysis

Before the analyses were run, close attention was paid to the quality of the survey data to ensure that scores of each of the dependent and independent variables were within reasonable ranges of their values. Multivariate outliers were carefully examined through computation of Mahalanobis distance ($p < .0001$) (Tabachnick & Fidell, 1996). Inferential statistics were used for the purposes of the analysis. Accordingly, the following statistical operations were performed on the data. As can be seen in Table 6, a hierarchical OLS multiple regression equation was computed for the dependent variables of intention to drink for the teens and of alcohol consumption for the young adults to assess the hypotheses. The equation was carried out in five phases. First, the demographic variables were entered as controls. This was followed by a block of measures of exposure to alcohol advertising through the mediums of magazines, radio, and outdoor billboards. Exposure to television ads for beer and liquor was next entered into the equation. We separated these two variables from the second block because exposure to TV ads for all brands of beer and exposure to TV ads for all brands of liquor were highly correlated. Grouping these two highly intercorrelated variables into a separate block was expected to minimize the adverse effects of multicollinearity (Pedhazur & Schmelkin, 1991). The fourth block of variables entered included three measures of attitudes and perceptions of alcohol advertising messages. Finally, the measure of positive expectancies about alcohol drinking was entered into the equation.

The significance of the models was assessed by incremental F-tests using the Type 2 error term for the denominator (Cohen & Cohen, 1983). In addition, the significance of the standardized beta-weights for the variables in block one was assessed by two-tailed t-tests, while the significance of the variables in the other blocks was assessed by one-tailed t-tests due to the directional nature of the relationships. The beta-weights themselves were derived from the final model where all the variables were included into the equation. For the incremental F- and t-tests, alpha was set at 0.05 (Type I error probability); however, tests that reached probabilities of between .05 and .10 ($.05 < p < .10$) were also indicated, in that for exploratory research like this, a larger possibility of making a Type I error is appropriate. Further, only those significant betas that were part of the model that achieved a significant incremental F-value were reported in the text.

Results

Among the demographic and control measures, the average age of the 608 teenagers was 16.97, with a standard deviation of 1.52 years of age. Half of the respondents (50.2%) were female, and the remaining 49.8 percent were male. Of the 612 young adults, the average age was 25.06, with a standard deviation of 2.75. About 57 percent of them were female, and 43 percent were male. Among the teen respondents, 66 percent had close friends or relatives who had experienced problems with alcohol, compared to 73 percent of the young adults who reported they had either close friends or relatives that had alcohol-related problems. Thirteen percent of the teenagers graduated from high school, about 12 percent had some college, eight percent in 12th grade, 24 percent in 11th grade, 24 percent in 10th grade, 16 percent in 9th grade, and three percent in 8th grade.

As for the young adults interviewed, six percent had graduate degree, 36 percent college degree, 36 percent some college, 19 percent high school, and about three percent had less than high school education. About 14 percent of the teenagers came from a urban area with more than 150,000 people, 27 percent from a suburb or small city with a population between 40,000 and 149,999, 22 percent from a medium town, 22 percent from a small town, 12 percent from a rural area but not a farm, and three percent lived on a farm. In the meantime, 23 percent of the young adults were from an urban area, 29 percent from a suburb or small city, 19 percent from a medium town, 14 percent from a small town, 11 percent from a rural area but not a farm, and about four percent lived on a farm. In addition, the average total household income for the young adults was between $30,000 and $50,000 ($\underline{M}$ = 4.00, $\underline{sd}$. = 1.26), slightly lower than that for the teenagers ($\underline{M}$ = 4.55, $\underline{sd}$. = 1.33).

Eighty-three percent of the 608 teenagers attended worship services. Nineteen percent of them attended worship services more than once a week, 41 percent once a week, 15 percent once a month, 12 percent several times a year, nine percent rarely, and four percent never attended worship services. Similarly, 83 percent of the 612 young adults attended worship services. Eleven percent went to church more than once a week, 32 percent once a week, 16 percent once a month, 21 percent several times a year, 14 percent rarely, and six percent never attended worship services.

The data also show that exposure to all brands of liquor on television on a weekly basis was only half of that to all brands of beer. While almost every survey participant (99.5% of the teenagers and 99% of the young adults) reported seeing ads for all brands of beer on television, only 51.3 percent of the teenagers and 49.2 percent of the young adults saw TV ads for all brands of liquor.

With regard to other exposure measures, 89 percent of the teenagers and 84 percent of the young adults had seen liquor ads in magazines, and 64.5 percent of the teenagers and 52 percent of the young adults had heard liquor ads on the radio in a week. Furthermore, 59 percent of the teenagers said yes when asked whether they noticed outdoor billboards that advertised liquor products, compared to 64 percent of the young adults reporting the same exposure. In addition, 48 percent of the teenagers intended to drink beer when they became older; 48 percent of them intended to drink liquor as adults. More than three-fourth (78.8%) of the young adults reported they usually drink alcoholic beverages. Of them, one percent would consume alcohol everyday, three percent 5-6 days a week, ten percent 3-4 days a week, 33 percent 1-2 days a week, 33 percent 1-3 days a month, and about 19 percent drink less than once a month.

As suggested in most of the available research on alcohol advertising and youth (Atkin et al., 1984; Gurbe & Wallack, 1994), gender was a significant predictor for both the teenagers and young adults in all the hierarchical multiple regression analyses of the study. In predicting positive expectancies about alcohol drinking (Table 3) where all other relevant variables were present, gender was noticeably significant for teenagers ($\beta = .31$, $p < .001$) and young adults ($\beta = .28$, $p < .01$), suggesting that male teenagers and young adults have more positive expectancies about alcohol drinking than their counterparts. Gender also had an independent effect on intention to drink for the teenagers ($\beta = -.15$, $p < .10$) and on alcohol consumption for the young adults ($\beta = .21$, $p < .05$), as presented in Table 6. It also contributed to explaining one of the three measures of attitudes and perceptions about alcohol advertising messages, Enjoy seeing liquor ads, ($\beta = .14$, $p < .10$ for teenagers; $\beta = .17$, $p < .05$ for young adults) (Table 1).

Another noteworthy contributor of all the demographic and control variables was church attendance. As indicated in Table 3 where the relationships among positive expectancies about alcohol drinking, exposure to alcohol advertising, and perceptions about alcohol advertising messages were examined, church attendance was significant for both the teenagers ($\beta = -.20$, $p < .01$) and young adults (($\beta = -.24$, $p < .01$), indicating that those who go to church more often tend to develop less positive expectancies about alcohol drinking than those who either less often or never attend worship services. The same was true for the young adults ($\beta = -.15$, $p < .05$) when the dependent variable of alcohol consumption was fully predicted (Table 6). In addition, Table 1 shows that church attendance was negatively significantly related to Enjoy seeing liquor ads for the young adults ($\beta = -.17$, $p < .05$).

Age, education, and city size were not significant predictors of the relationship between positive expectancies about alcohol drinking and intention to drink/alcohol consumption when other variables were present (Table 6), nor were they significant in assessing the relationship between exposure to alcohol advertising and expectancies about alcohol advertising (Tables 3). Age was a significant predictor of the perception measure that Liquor ads are informative for the young adults ($\beta = -.17$, $p < .05$, Table 1). Table 1 also shows that city size was negatively significantly related to Liquor ads are informative for the teenagers ($\beta = -.16$, $p < .05$), and was positively significantly related to Liquor ads show tasty brands for the young adults ($\beta = .14$, $p < .10$). Income was an important factor in the full model in explaining the teenagers' intention to drink as adults ($\beta = .27$, $p < .001$, Table 6), but not significant for the young adults, nor was it significant for both the teenagers and young adults in predicting their positive expectancies about alcohol drinking (Table 3). It was positively significantly related to the teenagers' Enjoy seeing liquor ads ($\beta = .12, p < .10$, Table 1), a measure of attitudes and perceptions about alcohol advertising messages.

The measure of having close friends/relatives who have had alcohol-related problems was only a significant factor for the young adults in explaining their alcohol consumption ($\beta = -.15, p < .10$, Table 6), suggesting that those who have close friends or relatives who had experienced alcohol-related problems drink less alcohol than those who do not. Although not all the demographic and control variables were significant in predicting all the dependent variables, it was clearly prudent to include them in our analyses. More importantly, the explanation power of the measure of church attendance was highlighted in the present data; whenever possible, the measure of church attendance should continue to be included, along with other demographic and control variables, in future research on alcohol advertising and youth.

Tests of the Hypotheses

To examine the relationships among exposure to alcohol advertising, attitudes and perceptions about alcohol advertising messages, positive expectancies about alcohol drinking, and intention to drink/alcohol consumption as displayed in Figure 1, we ran six hierarchical multivariate regressions. Hypothesis 1 suggested that exposure to alcohol advertising would have direct impact on attitudes toward alcohol advertising and perceptions of the information it provides. As can been seen in Table 1, this hypothesis was well supported, particularly as far as exposures to liquor ads in magazines and on television are concerned. For the young adults, exposure to liquor ads in magazines was positively significantly related to all three measures of perceptions about alcohol advertising messages, Enjoy seeing liquor ads ($\beta = .20$, $p < .01$), Liquor ads are informative ($\beta = .21$, $p < .01$), and Liquor ads show tasty brands ($\beta = .18$, $p < .05$), when the demographic variables were statistically controlled. In the meantime, higher exposure to liquor ads in magazines was also significant in predicting the teenagers' positive response to seeing liquor ads ($\beta = .25$, $p < .001$). The effects of other exposure measures were not equal between the teenagers and young adults. For example, higher exposure to TV ads for all brands of beer was significant in explaining the young adults' perceptions that liquor ads are informative ($\beta = .18$, $p < .05$) and liquor ads show tasty brands ($\beta = .14$, $p < .10$); it was not significant for the teenagers in predicting all three measures of their perceptions about alcohol advertising messages. On the other hand, higher exposure to TV ads for all brands of liquor was significantly related to explaining the teenagers' perceptions of Enjoy seeing liquor ads ($\beta = .18$, $p < .05$), Liquor ads are informative ($\beta = .18$, $p < .05$), and liquor ads show tasty brands ($\beta = .18$, $p < .10$). It did not have an independent effect on the young adults. Table 1 also shows that exposure to outdoor billboards showing liquor products did not make the teenagers enjoy seeing liquor ads more than those who did not see the billboards ($\beta = -.18$, $p < .05$). It was significantly related to the teenagers' perception that Liquor ads are informative ($\beta = .20$, $p < .01$).

Hypothesis 2 suggested that attitudes toward alcohol advertising and perceptions of the information it provides would have a direct impact on positive expectancies about alcohol drinking. When the measures of perceptions about alcohol advertising messages were entered into the equation to assess the hypothesized relationship (Table 3), the link was evident for the teenagers but not for the young adults as the demographic and exposure measures were statistically controlled. Two out of the three measures, Enjoying seeing liquor ads ($\beta = .26, p < .01$) and Liquor ads show tasty brands ($\beta = .18, p < .01$), were significantly related to prediction of the teenagers' positive expectancies toward alcohol use. It should be noted that the three measures of perceptions about alcohol advertising messages added a sizeable amount of 10.8% in accounting for the total variance of the teenagers' positive expectancies about alcohol drinking, while the demographic measures were responsible for 18.4% of the total variance of the dependent variable. The same association was not found for the young adults. This finding suggests that, for teenagers, perceptions about alcohol advertising messages have a direct and strong effect on their positive expectancies about alcohol use. This supports part of Hypothesis 2 because the linkage was not present for the young adult sample.

Table 6 shows clear support for Hypothesis 3 which suggested that positive expectancies about alcohol drinking would have a direct impact on self-reported drinking in the young adult sample and on intention to drink in the under aged sample. For the teenager sample, positive expectancies were highly predictive on their intention to drink as adults ($\beta = .29, p < .001$), accounting for 6% of the total variance of 31.6% when all other variables were present. Similarly, for the young adult sample, the measure of positive expectancies toward alcohol use was significantly related to predicting their alcohol consumption ($\beta = .31, p < .001$), contributing 8.3% to the total variance of 37.5% predicted by the full equation.

Hypothesis 4 suggested that the impacts of exposure to alcohol advertising, attitudes toward alcohol advertising, and perceptions about alcohol advertising messages on alcohol consumption and intention to drink would be indirect, and mediated through positive expectancies about alcohol drinking. Table 6 shows that this was generally true for the young adult sample. Once the measure of positive expectancies was entered into the regression, only the demographic variables remained significant. All other measures of exposure to various mediums of alcohol advertising (Blocks 2 and 3) and attitudes and perceptions about alcohol advertising messages (Block 4) were not significant at all. It should also be noted, however, that only advertising exposure was mediated through this process for the adults. For example, liking alcohol ads and perceiving their informative value play no role in predicting alcohol consumption of the young adults. In the meantime, Hypothesis 4 was not exactly true for the under aged sample. As can be seen in Table 6, even after the expectancy block was entered into the equation, one of the measures of attitudes and perceptions about alcohol advertising messages, Enjoy seeing liquor ads, remained significant ($\beta = .28, p < .001$). In other words, when all the other measures were present, there were direct effects of attitudes toward alcohol advertising messages on the teenagers' intention to drink. Those direct effects were not completely mediated through the teenagers' positive expectancies about alcohol drinking as were evident in the process of predicting the young adults' alcohol consumption.

The overall findings of the present data imply that the model posited in Figure 1 needs to be differentially modified for the under aged and young adult samples. For the teenagers, the model is correct except that there should be a direct link from attitudes and perceptions about alcohol advertising messages to intention to drink. For the young adults, the model should reflect that there is no direct link between attitudes and perceptions about alcohol advertising messages and their alcohol consumption.

Discussion

Our proposed model posits that exposure to alcohol advertising would have a direct effect on both the teenagers' and young adults' attitudes and perceptions of alcohol advertising messages which, in turn, would be translated into their positive expectancies toward alcohol drinking. The positive expectancies were then postulated to be directly linked to one's drinking behavior. The present findings show that the mediated effects of exposure to alcohol advertising were manifest when the positive expectancies about alcohol drinking significantly predicted the teenagers' intentions to drink as adults as well as the young adults' consumption of alcohol. Thus, these findings provide support for the model that specifies that higher exposure to alcohol advertising leads to immediate attitudes and perceptions about alcohol advertising messages, the perceptions of alcohol advertising then influences the attitudes of teenagers and young adults to develop positive expectancies about alcohol drinking, and their positive expectancies toward alcohol use lead to intentions to drink as adults by teenagers and to more alcohol consumptions by young adults. However, the present data suggests that the model must be slightly modified for better assessment of the relationships among exposure to alcohol advertising, attitudes and perceptions about alcohol advertising messages, positive expectancies about alcohol use, and drinking behavior for both teenagers and young adults. For teenagers, there is a direct link between attitudes and perceptions about alcohol advertising messages and their intention to drink; for young adults, such a direct link does not seem to play a role in predicting their development of positive expectancies about alcohol drinking and hence their drinking behavior.

Previous research suggests that well-developed expectancies about alcohol drinking exist before children and adolescents have had an opportunity to experience alcohol (Atkin et al., 1984; Christiansen et al., 1989; Wallack et al., 1990; Austin & Johnson, 1997b;). From the perspective of public health and prevention of risky behavior, researchers have attempted to answer the question of how expectancies originate. Mass media, along with parental modeling and peer influences, has been argued to play a significant role in the development of positive expectancies about alcohol drinking among adolescents (Christiansen et al., 1989), because media dissemination of cultural values through alcohol advertising continues to be one of the sources of information about alcohol drinking for children and teenagers. In general, the results of the study support the viewpoint that, in predicting intention to drink of teenagers and alcohol consumption of young adults, advertising exposure is important because it is directly linked to initial changes in one's attitudes toward alcohol advertising and perceptions of the information it provides. This direct impact of alcohol advertising may be attributable to the fact that nowadays alcohol advertising focuses on selling fantasies and lifestyles that are psychologically appealing to children and adolescents such that they like to identified themselves with the portrayals of alcohol advertising and want to experience alcoholic products (Atkin et al., 1984; Casswell, 1995; Austin & Knaus, 2000). However, as shown in this study, exposure to alcohol advertising is not the determining factor that predicts teenagers' intention to drink and young adults' alcohol use. The significance of alcohol advertising exposure lies within its impact on development of teenagers' attitudes toward the advertising and perceptions of how informative it is which, in turn, lead to their positive expectancies about alcohol drinking. And it is these expectancies that are a critical predictor of teenagers' intention to drink. That the young adults who were examined in this study do not show any impact of the perceptions stage as a result of exposure to alcohol advertising may be because by the time they reach the ripe old age of 21, they have seen so many alcohol ads that positively responding to them is no longer critical. Instead, the positive expectancies that they have built up as a function of both their direct personal experience and exposure to advertising are the critical predictors of their consumption of alcohol. As for the under aged sample, the presence of the stage of perceptions about alcohol advertising clearly points to the route from advertising to intention to drink.

This study also provides great support to the argument that psychological factors, in predicting drinking behavior of adolescents and young adults, play a role as important as pharmacology (Christiansen et al., 1989). The finding that positive expectancies about alcohol drinking significantly predicted intention to drink as adults and alcohol consumption for both teenager and young adult samples when all other variables were present strengthens the use of alcohol-related expectancy as a theoretical concept in the study of adolescent drinking behavior. Christiansen and his colleagues argue that the utility of the concept of alcohol-related expectancies is "to link experiences regarding alcohol use obtained at one point in life with a later point when the actual decision to drink is made and when alcohol-related behaviors are emitted" (Christiansen et al., 1989, p. 98). Using a multiyear longitudinal study on the development of expectancies and drinking behavior in adolescents, the authors found adequate support for expectancy as a causal variable that predicted alcohol consumption and its associated behavior problems. Compared to Christiansen et al.'s correlational data, the strength of the inference of causality is enhanced in this study through the use of hierarchical multiple regression analyses that take into consideration possible impacts of church attendance, having close friends/relatives that have experienced alcohol-related problems, exposure to alcohol advertising, attitudes toward alcohol advertising, and perceptions about alcohol advertising messages on the criterion variables.

One of the limitations of this study is that it did not have a measure of peer influence as a possible control variable in its analyses. Peer influence was a strong predictor of teenagers' liquor drinking in Atkin et al.'s 1984 study. It was also significantly related to school children's intention to drink as adults, negative beliefs, beer brands, and slogans in Grube and Wallack's 1994 study. Parental modeling is another control variable that was missing in this study. Brown et al. (1987) found that adolescents differ in their expectancies about alcohol use as a function of parental drinking practices. We also recognize that only simple exposure measures were employed in the present design. Although such measures are consistent with our model, it does not tell us why the teenagers and young adults would be exposed to alcohol ads or what motivating forces may drive them to attend to alcohol advertising. Since it was the first attempt that we know of to gauge the effects of liquor advertising predicated by attitudinal measures, simple exposure measures were deemed a good place to start. The design of the study did not include measures of "attention" as differentiated from exposure (Chaffee & Schleuder, 1986). The inclusion of self-reported attention measures would likely have led to increases of the explained variance presented in the model (Martinelli & Chaffee, 1995).

Figure 1: Mediated Model of Alcohol Advertising Effects for Teenagers & Young Adults

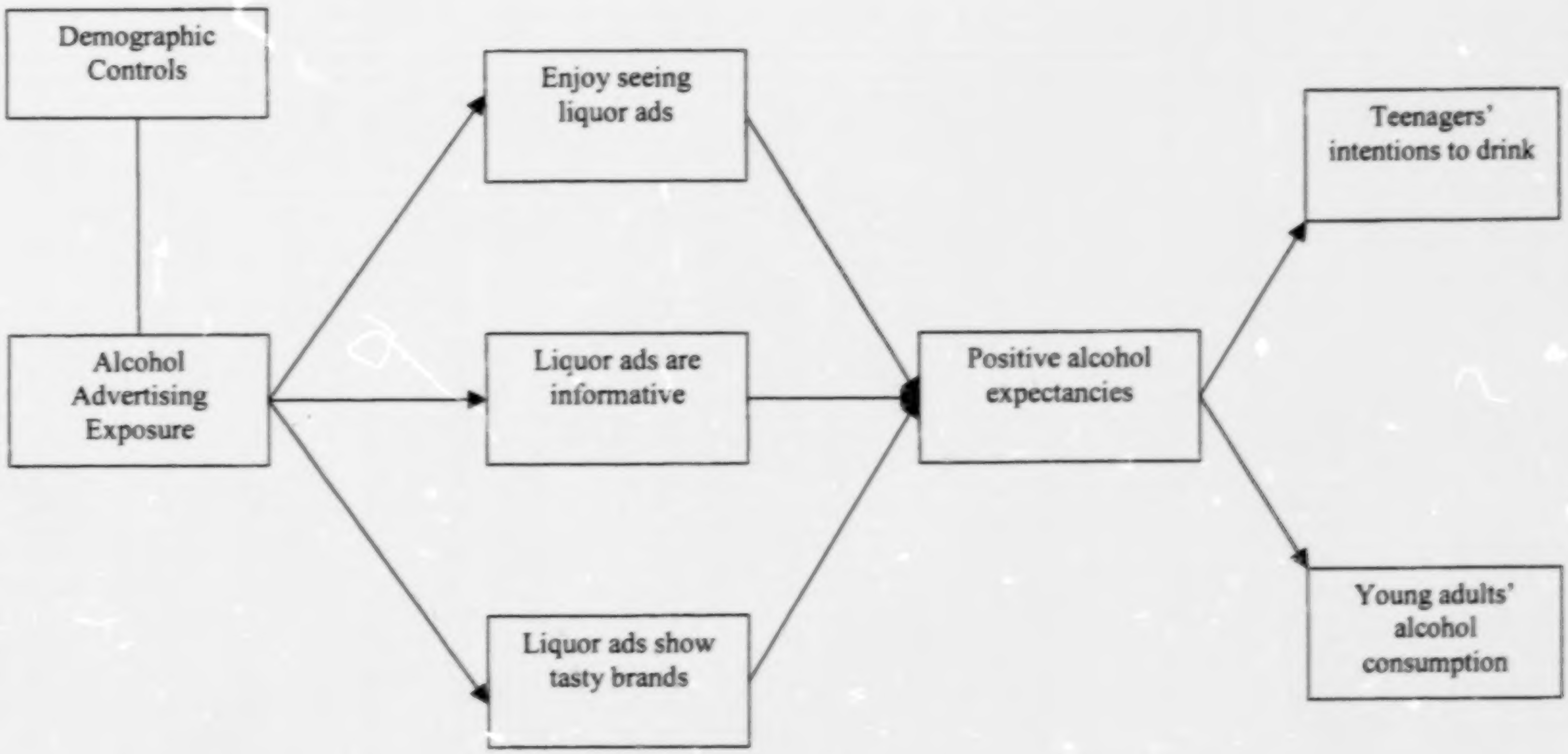
Demographic Controls
Alcohol Advertising Exposure
Enjoy seeing liquor ads
Liquor ads are informative
Liquor ads show tasty brands
Positive alcohol expectancies
Teenagers' intentions to drink
Young adults' alcohol consumption

Table 1. Hierarchical Multiple Regression: Relationship Between Beliefs about Alcohol Advertising Messages and Exposure to Alcohol Advertising Among 12 - 20 Year-Olds and 21 – 29 Year-Olds in 1999

	Enjoy seeing liquor ads 12-20 (n = 204)	Liquor ads are informative 12-20 (n = 182)	Liquor ads show tasty brands 12-20 (n = 195)	Enjoy seeing liquor ads 21-29 (n = 208)	Liquor ads are informative 21-29 (n = 195)	Liquor ads show tasty brands 21-29 (n = 207)
Block 1						
Gender (male=1)	0.14*	0.05	0.03	0.17**	-0.09	-0.17**
Age	-0.11	-0.04	0.16	-0.01	-0.17**	0.02
Education	0.15	-0.07	-0.16	-0.02	-0.05	-0.04
City size	0.01	-0.16**	0.00	0.11	-0.05	0.14*
Income	0.12*	-0.02	0.05	-0.02	-0.08	0.04
Friend/relatives with alcohol-related problems (yes=1)	0.03	0.01	0.06	-0.05	-0.03	-0.01
How often attend worship services	-0.10	-0.11	0.03	-0.17**	-0.05	0.08
Incremental R^2 (%)	3.9	4.5	1.8	12.6****	7.5**	3.6
Block 2						
Liquor ads seen in magazines	0.25****	0.09	-0.03	0.20***	0.21***	0.18**
Liquor ads heard on radio	0.08	-0.15*	-0.07	0.01	-0.01	0.04
See outdoor billboards showing liquor products (yes=1)	-0.18**	0.20***	0.04	-0.01	0.10	0.10
Incremental R^2 (%)	9.2****	6.3***	0.03	3.9**	6.3***	5.7***
Block 3						
Number of TV ads for all brands of beer in a week	-0.01	0.05	-0.05	0.02	0.18**	0.14*
Number of TV ads for all brands of liquor in a week	0.18**	0.18**	0.18*	0.02	-0.01	-0.06
Incremental R^2 (%)	2.5*	3.9**	2.1	0.1	2.4*	1.3
Total R^2 (%)	15.7	14.7	4.2	16.6	16.1	10.6

Note: *a. Table entries are standard betas from the final model; block 1 uses two-tailed tests, and other blocks use one-tailed tests.*
b. *$p < .10$. **$p < .05$. ***$p < .01$. ****$p < .001$.

Table 2. Hierarchical Multiple Regression: Relationship Between Positive Alcohol Expectancy and Exposure to Alcohol Advertising in 1999

	Positive expectancies about alcohol drinking aged 12-20 (n = 202)	Positive expectancies about alcohol drinking aged 21-29 (n = 211)
Block 1		
Gender (male=1)	0.32****	0.25***
Age	-0.04	-0.04
Education	-0.01	0.02
City size	0.02	-0.04
Income	0.09	0.03
Friend/relatives with alcohol-related problems (yes=1)	-0.07	-0.03
How often attend worship services	-0.19***	-027****
Incremental R^2 (%)	14.9****	16.6****
Block 2		
Liquor ads seen in magazines	0.06	0.10
Liquor ads heard on radio	-0.04	0.03
See outdoor billboards showing liquor products (yes=1)	0.02	-0.08
Incremental R^2 (%)	0.4	1.3
Block 3		
Number of TV ads for all brands of beer in a week	-0.17**	-0.11
Number of TV ads for all brands of liquor in a week	0.04	0.02
Incremental R^2 (%)	2.0	0.9
Total R^2 (%)	17.3	18.7

Note: a. *Table entries are standard betas from the final model; block 1 uses two-tailed tests, and other blocks use one-tailed tests.*

b. **p < .10. **p < .05. ***p < .01. ****p < .001.*

Table 3 Hierarchical Multiple Regression: Relationship Between Positive Alcohol Expectancy and Exposure to Alcohol Advertising Among 12-20 Year-Olds and 21-29 Year-Olds in 1999

	Positive expectancies about alcohol drinking aged 12-20 (n = 180)	Positive expectancies about alcohol drinking aged 21-29 (n = 190)
Block 1		
Gender (male=1)	0.31****	0.28***
Age	-0.08	-0.04
Education	-0.01	0.05
City size	0.06	-0.07
Income	0.06	-0.02
Friend/relatives with alcohol-related problems (yes=1)	-0.09	-0.03
How often attend worship services	-0.20***	-024***
Incremental R^2 (%)	18.4****	16.0****
Block 2		
Liquor ads seen in magazines	-0.01	0.06
Liquor ads heard on radio	-0.03	0.03
See outdoor billboards showing liquor products (yes=1)	0.08	-0.08
Incremental R^2 (%)	0.3	1.2
Block 3		
Number of TV ads for all brands of beer in a week	-0.17**	-0.12
Number of TV ads for all brands of liquor in a week	-0.05	0.02
Incremental R^2 (%)	2.1	0.6
Block 4		
Enjoy seeing liquor ads	0.26***	0.07
Liquor ads are informative	0.03	0.07
Liquor ads show tasty brands	0.18***	0.06
Incremental R^2 (%)	10.8****	1.5
Total R^2 (%)	31.6	19.2

Note: *a. Table entries are standard betas from the final model; block 1 uses two-tailed tests, and other blocks use one-tailed tests.*

b. *$p < .10$. **$p < .05$. ***$p < .01$. ****$p < .001$.

Table 4 Hierarchical Multiple Regression: Relationship Between Intention to Drink / Alcohol Consumption and Exposure to Alcohol Advertising in 1999

	Intention to drink aged 12-20 (n = 196)	Alcohol consumption aged 21-29 (n = 166)
Block 1		
Gender (male=1)	-0.02	0.32****
Age	0.06	-0.14*
Education	-0.01	0.12
City size	-0.05	0.10
Income	0.31****	0.06
Friend/relatives with alcohol-related problems (yes=1)	-0.07	-0.15**
How often attend worship services	-0.18**	-0.14*
Incremental R^2 (%)	11.8***	25.0****
Block 2		
Liquor ads seen in magazines	0.11	0.06
Liquor ads heard on radio	-0.13	0.03
See outdoor billboards showing liquor products (yes=1)	-0.04	0.02
Incremental R^2 (%)	2.1	0.4
Block 3		
Number of TV ads for all brands of beer in a week	0.03	-0.03
Number of TV ads for all brands of liquor in a week	0.02	0.01
Incremental R^2 (%)	0.2	0.1
Total R^2 (%)	12.2	25.5

Note: *a. Table entries are standard betas from the final model; block 1 uses two-tailed tests, and other blocks use one-tailed tests.*

b. $^*p < .10$. $^{**}p < .05$. $^{***}p < .01$. $^{****}p < .001$.

Table 5. Hierarchical Multiple Regression: Exposure to Alcohol Advertising and Perceptions about Alcohol Advertising Messages on Intention to Drink / Alcohol Consumption

	Intention to drink aged 12-20 (n = 176)	Alcohol consumption aged 21-29 (n = 152)
Block 1		
Gender (male=1)	-0.07	0.31****
Age	0.10	-0.10
Education	-0.08	0.12
City size	-0.03	0.08
Income	0.28****	0.08
Friend/relatives with alcohol-related problems (yes=1)	-0.03	-0.17**
How often attend worship services	-0.16**	-0.16**
Incremental R^2 (%)	11.7***	26.1****
Block 2		
Liquor ads seen in magazines	0.04	0.10
Liquor ads heard on radio	-0.16**	0.01
See outdoor billboards showing liquor products (yes=1)	0.05	0.00
Incremental R^2 (%)	2.7	1.0
Block 3		
Number of TV ads for all brands of beer in a week	0.05	-0.03
Number of TV ads for all brands of liquor in a week	-0.04	-0.04
Incremental R^2 (%)	0.2	0.2
Block 4		
Enjoy seeing liquor ads	0.36****	0.02
Liquor ads are informative	0.01	0.13
Liquor ads show tasty brands	0.01	-0.08
Incremental R^2 (%)	11.4****	2.0
Total R^2 (%)	26.1	29.3

Note: *a. Table entries are standard betas from the final model; block 1 uses two-tailed tests, and other blocks use one-tailed tests.*

b. *$p < .10$. **$p < .05$. ***$p < .01$. ****$p < .001$.

Table 6. Hierarchical Multiple Regression: Prediction of Intention to Drink Among 12-20 Year-Olds and Alcohol Consumption Among 21-29 Year-Olds in 1999

	Intention to drink aged 12-20 (n = 174)	Alcohol consumption aged 21-29 (n = 151)
Block 1		
Gender (male=1)	-0.15*	0.21**
Age	0.13	-0.08
Education	-0.08	0.12
City size	-0.04	0.08
Income	0.27****	0.08
Friend/relatives with alcohol-related problems (yes=1)	0.00	-0.15**
How often attend worship services	-0.10	-013*
Incremental R^2 (%)	11.8***	26.1****
Block 2		
Liquor ads seen in magazines	0.04	0.11
Liquor ads heard on radio	-0.15**	-0.00
See outdoor billboards showing liquor products (yes=1)	0.03	0.02
Incremental R^2 (%)	2.7	1.0
Block 3		
Number of TV ads for all brands of beer in a week	0.09	0.01
Number of TV ads for all brands of liquor in a week	-0.04	-0.06
Incremental R^2 (%)	0.2	0.2
Block 4		
Enjoy seeing liquor ads	0.28****	0.02
Liquor ads are informative	0.01	0.12
Liquor ads show tasty brands	-0.04	-0.10
Incremental R^2 (%)	11.1****	2.0
Block 5		
Positive expectancies about alcohol drinking	0.29****	0.31****
Incremental R^2 (%)	6.0****	8.3****
Total R^2 (%)	31.6	37.5

Note: *a. Table entries are standard betas from the final model; block 1 uses two-tailed tests, and other blocks use one-tailed tests.*

b. **p* < *.10.* ***p* < *.05.* ****p* < *.01.* *****p* < *.001.*

Appendix
Question Wording & Scale of Measurement

Enjoy seeing liquor ads

> *Think about the liquor billboards, magazine ads, or TV commercials you've seen for rum, vodka, whiskey, or flavored liqueurs, please tell me how often you'd have the following responses when you see liquor ads. How often do you enjoy seeing liquor ads?*
> Coded as 1 (never), 2 (seldom), 3 (sometimes), and 4 (usually).

Liquor ads are informative

> *How often do liquor ads show you which drinks are most popular these days?*
> *How often do liquor ads help you find out about new brands of liquor?*
> *How often do liquor ads help you find out which brands impress other people?*
> Coded as 1 (never), 2 (seldom), 3 (sometimes), and 4 (usually).

Liquor ads show tasty brands

> *How often do liquor ads tell you which brands of liquor taste best?*
> Coded as 1 (never), 2 (seldom), 3 (sometimes), and 4 (usually).

Positive expectancies alcohol advertising

> *People who drink alcohol have more fun and excitement than those who don't drink.*
> *People get along better when they've had a few drinks.*
> *Drinking alcohol is a good way to escape the hassles of everyday life.*
> Coded as 1 (strongly disagree), 2 (disagree), 3 (neutral), 4 (agree), and 5 (strongly agree).

Intent to drink (for those aged 12 to 20 only)

> *When you're older, do you intend to drink beer?*
> *When you're older, do you intend to drink liquor?*
> Coded as yes = 1, no = 0.

Alcohol consumption (for those aged 21 to 29 only)

> *About how often do you consume alcohol?*
> Coded as 0 (less than once a month), 1 (1 to 3 days a month), 2 (1 to 2 days a week), 3 (3 to 4 days a week), 4 (5 to 6 days a week), and 5 (everyday).

Exposure to alcohol advertising

> *About how many liquor ads do you notice in a typical week when you're reading magazines?*

About how many liquor commercials do you hear on the radio in a typical week?
Coded as 1 (none), 2 (just one), 3 (a few), 4 (some), and 5 (many).

Do you notice any outdoor billboards that advertise liquor products when you're walking or riding around town?
Coded as yes = 1, no = 0.

In a typical week, about how many TV commercials for all brands of beer do you see?
In a typical week, about how many TV commercials for all brands of liquor do you see?
Coded as 1 (none), 2 (just one), 3 (a few), 4 (some), and 5 (many).

Demographic/Control variables

Age. Exact age of respondent between 12 and 29.
Gender. Coded as male = 1, female = 0.
Education. Education level of respondent, 1-12 (years in school), 13 (high school), 14 (some college), 15 (college degree), and 16 (graduate degree).
City size. Coded as 1 (on a farm), 2 (in a rural area but not on a farm), 3 (in a small town less than 10,000), 4 (in a medium town between 10,000 and 39,999), 5 (in a suburb/small city between 40,000 and 149,999), and 6 (in an urban area over 150,000).
Income. Total household income of respondent's family, 1 (less than $10,000), 2 (at least $10,000 but under $20,000), 3 (at least $20,000 but under $30,000), 4 (at least $30,000 but under $50,000), 5 (at least $50,000 but under $100,000), 6 (at least $100,000 but under $150,000), and 7 ($150,000 or more).
Has a close friend or relative of yours ever experienced alcohol-related problems? Coded as yes = 1, no = 0.
How often do you attend worship services? Coded as 1 (never), 2 (rarely), 3 (several times a year), 4 (once a month), 5 (once a week), and 6 (more than once a week).

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Running Head: Peer and social influence

Peer and Social Influence on Opinion Expression: Combining the Theories of Planned Behavior and the Spiral of Silence

Kurt Neuwirth, Ph. D., UW-Madison, 1995
Associate Professor
Center for Health and Environmental Communication Studies
Department of Communication
620 Teacher's College ML 184
University of Cincinnati
Cincinnati, OH 45221-0184
513/556-1571
Kurt.Neuwirth@uc.edu

Edward Frederick, Ph. D., UW-Madison, 1997
Assistant Professor
Department of Journalism
University of Southern Mississippi
Hattiesburg, MS 39406
601/266-6471
Edward.Frederick@usm.edu

Joyce M. Wolburg, Ph. D., 1995, University of Tennessee
Associate Professor,
Marquette University
Department of Advertising and Public Relations
P.O. Box 1881
Milwaukee, WI 53201
414/288-6357
Joyce.Wolburg@Marquette.edu

Key words: Planned Behavior, Spiral of Silence, Social Marketing, Peer Influence, Social Influence, Alcohol Consumption

Paper presented to AEJMCAnnual Convention, Miami, FL, August 8, 2002

Note: Address all correspondence to Neuwirth

Peer and Social Influence on Opinion Expression: Combining the Theories of Planned Behavior and the Spiral of Silence

Abstract

This study uses the Theory of Planned Behavior and Spiral of Silence to explore the role of peer and social influence on communicative acts related to drinking behavior. Consistent with the Theory of Planned Behavior, results of the study suggest that a person's own attitudes and sense of self-efficacy are important influences on willingness to communicate about drinking. The study also found that peer influence and, to a lesser extent, perceptions of majority attitudes were associated with willingness to voice an opinion. Discussion centers on the possibility of incorporating concepts derived from the Theory of Planned Behavior into the Spiral of Silence framework. Implications of these findings for future public service interventions also are discussed.

Studies applying the Theory of Planned Behavior have demonstrated that when individuals are faced with risky situations, they consider the possible reactions of family, friends and others before deciding on which behaviors to pursue. Similarly, research inspired by the Spiral of Silence, which focuses on normative influence, has shown that people tend to moderate their speech to match their perceptions of the majority opinion rather than risk being isolated for expressing unpopular views. Although both approaches consider different variables as important predictors, both theories attempt to explain behavior, and, using them as a starting point, this study examines the role of peer and social influences on communication behaviors related to drinking.

Drinking to excess is associated with many risks: unsafe sex, traffic accidents, physical and sexual assaults, accidental injury, cognitive impairment and problems with social adjustment (Presley, Meilman & Lyerla, 1993; Wechsler & Issac, 1992; Hanson & Engs 1992). Researchers have cited the influence of both peers and wider social norms as factors that can contribute to excessive alcohol consumption (Jacobson & Mazur, 1995; Wechsler & Kuo, 2000; Wechsler et al., 1999, Wechsler et al., 1994). Peer influence is thought to operate through group membership (Borsari & Carey, 1999; Wechsler, Kuh, & Davenport, 1996), whereas social pressure is thought to stem from perceptions of social norms regulating behavior (Werch, et al., 2000; Wechsler et al., 1999; Presley et al., 1993). This study focuses on the extent to which perceptions of peer opinion and the social norms surrounding alcohol consumption influence discourse about drinking behaviors.

Peer Influence and the Theory of Planned Behavior

We rely on key concepts derived from Ajzen's (1988, 1991) Theory of Planned Behavior (TPB) to study the role of perceived norms and drinking behaviors. The theory has been tested across a wide range of activities, including responses to various health risks (e.g., Boyd & Wandersman, 1991; Fishbein & Middlestadt, 1989; Griffin, Neuwirth & Dunwoody, 1995), and drinking (Conner, Warren, Close & Sparks, 1999; Marcoux & Shope, 1997; Traeen & Nordlund, 1993).

The Theory of Planned Behavior accounts for conduct by assuming that 1) actions are voluntary, 2) people use available information in their decision-making and 3) they consider the likely consequences of their actions (Ajzen, 1988, p. 117). The theory suggests that behavior is predicted by 1) behavioral intention and 2) perceived behavioral control. Behavioral intention itself is produced by three factors: Attitude toward the behavior, subjective norms, and perceived behavioral control. Attitude toward the behavior is the person's global evaluation of performing the specific behavior and subjective norm is the person's perception of whether relevant others believe he or she should perform the behavior (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975). Perceived behavioral control (see Bandura, 1986) includes two sets of beliefs: One's ability to perform an action (self-efficacy) and the extent to which performing the behavior is up to the actor (controllability) (Ajzen, *in press*).

TPB also explains the precursors of attitude toward the behavior and subjective norms. Antecedent to attitude toward the behavior are behavioral beliefs consisting of 1) a set of six-to-eight salient behavioral beliefs (b) about performing a specific behavior and, 2) evaluations (e) (e.g., how good or bad) of each belief outcome (Fishbein & Ajzen, 1975). A behavioral belief entails the likelihood that an outcome will be associated with the performance of the specific behavior (e.g., a person might believe that the behavior of "taking vitamins every day" will probably "keep me from getting sick "). Attitude toward the behavior can be measured directly or researchers may multiply a behavioral belief by an evaluation to obtain a measure of "indirect attitude" (Ajzen, 1991).

Subjective norms have two components. *Normative beliefs* reflect the approval or disapproval of the behavior by salient referent groups or individuals. *Motivation to comply* is the extent to which the individuals feel compelled to behave in accordance with the wishes of a salient person or group. Subjective norms can be assessed directly or indirectly. Indirect assessment includes multiplying the strength of each normative belief by motivation to comply. (Ajzen, 1991). Research findings from TPB-based studies appear to be quite robust. A meta-analysis of dozens of studies found generally strong correlations (averaging .66) between behavioral intention and attitude and subjective norm (Sheppard, Hartwick & Warshaw, 1988), and the average correlation between behavioral intention and actual performance of .79 (Kim & Hunter, 1993).

The relationship between TPB and communication processes seemingly is straightforward. Communication activity has the potential to influence several components found in the model: Beliefs about a behavior (e.g., giving my opinion about drinking won't matter), evaluations (e.g., getting drunk feels good, having a hangover is bad), specific beliefs about the reactions of significant others (normative beliefs), and one's ability to engage in or manage a behavior (controllability).

Less appreciated, however, is the possibility of considering communication as a form of behavior (Loken, 1983; Palmgreen & Rayburn, 1985; Warsaw & Davis, 1985). This feature becomes important when considering the wide range of communication activity that typically surrounds the act of drinking. This includes, for example, not only ordering a drink or turning down the suggestion of another drink, but also offering to call a cab rather than have a friend drive while intoxicated. Thus, certain key communication behaviors, particularly those involving opinion expression that may go against prevailing norms, can be seen as essential in any attempt to mitigate behaviors associated with drinking or to engage in alternative behaviors (e.g., ordering a soda when everyone else expects that someone will drink alcohol). Taking up the topic of communication behaviors about drinking as our object of study, we would expect that:

H1: Attitudes toward drinking-related communication behaviors will be positively associated with behavioral intention.

H2: Perceived behavioral control over drinking-related communication behaviors will be positively associated with behavior intention.

H3: Subjective norms concerning drinking-related communication behaviors will be positively associated with behavioral intention.

As mentioned above, TPB usually incorporates all behavioral beliefs as a component of indirect attitude (i.e., belief-by-evaluation interaction). This study isolates and examines in greater detail the role of one key belief--*response efficacy*--a belief that a particular behavior will achieve a desired outcome (e.g., Janz & Becker, 1984; Rogers & Prentice-Dunn, 1997; Neuwirth, Dunwoody & Griffin, 2000). The inclusion of response efficacy poses an alternative explanation to fear of isolation as a reason for falling silent (Neuwirth, 2000); people may decline to voice an opinion because they believe doing so won't matter. Or, stated positively, we would expect that:

H4: Response efficacy will be positively associated with behavioral intention.

Social Influence and the Spiral of Silence

Of course, TPB is not the only theoretical approach that attempts to explain particular behaviors using, at least in part, the idea of perceived norms as a form of social influence and control. We refer to Noelle-Neumann's theory of public opinion known as the spiral of silence (SOS). Public opinion, according to Noelle-Neumann alludes to "opinions on controversial issues that one can express in public without isolating oneself" (Noelle-Neumann, 1984, pp. 62-63). Noelle-Neumann argues that "social conventions, customs and norms have always been included in the domain of public opinion. Public opinion imposes sanctions on individuals who offend against conventions" (Noelle-Neumann, 1973, p. 88). Briefly, the spiral of silence theory (Noelle-Neumann, 1974, 1984, 1991) holds that the mass media devise a narrow docket of concerns that functions to favor a selected set of proposals that enter public discourse while simultaneously excluding rival positions. Individuals immersed in such a limited yet pervasive and consonant "climate of opinion" are deluded about the genuine state of public opinion and, prompted by a "fear of isolation," are less likely to express their own viewpoint when they believe their opinions and ideas are in the minority. This fear is due, according to Noelle-Neumann, to a desire to elude negative social sanctions that tend to leave the person socially shunned. This fear also stimulates people to observe the media for cues about the majority's position on debatable issues of the day. Such an individual-based mechanism of social conformity has long-term repercussions; as the open expression of opinions declines, the rarity of these viewpoints shifts peoples' estimates of prevailing opinion, prompting others to refrain from divulging their opinions when given the chance, thus contributing to an ever-expanding spiraling process.

Some thirty years have passed since Noelle-Neumann first proposed the spiral of silence as a formal theory (1974). Noelle-Neumann's critics have raised a number of objections to the theory. Without commenting on the merits of these criticisms, these include: ignoring positive motives for speaking out (Salmon & Kline, 1985; Lasorsa, 1991), deficient conceptualization of hardcore and *avant garde* groups (Glynn & McLeod, 1985), alternative explanations such as bandwagon and projection (Salmon & Kline, 1985), the consonance of media content and the operation of selectivity processes (Salmon & Kline, 1985), stressing normative at the expense of informational mechanisms (Salmon & Kline, 1985; Price & Allen, 1990). However, the accumulation of results during this interval suggests that the degree to which peoples' estimates of majority opinion does affect their rate of opinion expression and, although small in magnitude, is indeed a real phenomenon (Glynn, Hayes & Shanahan, 1997). Hence, the prospect of drawing upon TPB's conceptual richness and apparent greater empirical consistency in order to better inform SOS would seem appealing.

[Figure 1 about here]

Conceptually, TPB tends to focus on peer and reference groups as the main social factors contributing to behavior, whereas SOS researchers center their theoretical attention on the role of majority opinion as the principle locus of social influence in explaining behavior. In comparing TPB and SOS, it is apparent that SOS has no equivalent to perceived behavioral control nor the constituent factors of self-efficacy and controllability. Areas of potential overlap appear to include 1) attitude toward the behavior and a person's own opinion and, 2) normative beliefs and perception of majority opinion. In the latter case, normative beliefs (from TPB) may be considered to parallel SOS's idea of perceptions of majority opinion, while TPB's motivation to comply appears to have SOS's fear of social isolation as a counterpart. The two approaches appear to have slightly different explanatory and predictive goals. TPB seeks to explain behavioral intention (and behavior) as a function of subjective norms, attitude toward the behavior, and perceived behavior control. Somewhat in contrast, SOS (at the individual level) seeks to account for differential rates of behavior (opinion expression) as stemming from a contrast between own opinion (Attitude toward the behavior in TPB's terms) and estimated majority opinion (a kind of normative belief from the TPB perspective).

In general, researchers working within the SOS framework have explored broader "macro" issues (e.g., abortion, gun control) rather than more localized concerns (e.g., campus drinking) and have not typically assessed perceptions of opinion climates spanning several political units (e.g., national, state, local). For exceptions see Glynn and Park (1997), Salmon and Neuwirth (1990) and Salmon and Oshagan (1990). Nor have many researchers assessed, as TPB would suggest, the potential influence of important reference others. The exception would appear to be the work of Oshagan (1996), who conducted an experimental study suggesting that the influence of the perceptions of reference group opinion on opinion expression outweighs that of perceptions of majority opinion. More recently, scholars (Scheufele & Moy, 2000; Scheufele, Shanahan & Lee, 2001) have argued that researchers should assess the influence of peer and reference groups in studying opinion expression. However, consistent with previous SOS and TPB research, we would expect that:

H5: Perceptions of majority opinion (normative belief) will be positively associated with behavioral intention.

Given its centrality to the Spiral of Silence, no other relationship has been as frequently tested as the association between estimated majority opinion and opinion expression. Numerous studies provide evidence of a negative relationship between a misalignment of one's own opinion with perceived majority opinion as a predictor of opinion expression (Glynn & McLeod, 1984; Jeffres, Neuendorf & Atkin, 1999; Katz & Baldassare, 1992; Neuwirth, 2000; Salmon & Neuwirth, 1990; Salmon & Oshagan, 1990; Scheufele, 1999). In line with the general thrust of these findings we would expect that own opinion and perceived majority opinion (normative belief) will interact when predicting to opinion expression as follows:

> H6: Respondents whose own views align with estimated majority opinion will be most likely to express their opinion, while respondents whose own views do not align with estimated majority opinion will be least likely to express their opinion.

Method

An anonymous survey was administered to a cluster-based probability sample of the undergraduate student population at a private, urban, Midwest university during an 18-day period in the spring semester 1998. The campus has approximately 7,000 undergraduate students and 2,500 graduate students. The survey sample was obtained through the use of cluster sampling. Each undergraduate course listed on the university's fall class schedule equated to one student cluster. Twenty-seven undergraduate courses were chosen by randomly selecting a day of the week and a class period on that day from which to sample students. Such a sampling strategy meant that it was impossible for any individual to be included in the sample twice because no student could be registered for two classes at the same time. Seventeen of the 27 (62 percent) course instructors agreed to participate. The surveys were then administered in-class. In total, 549 students were enrolled in the 27 courses in the sample. Of those enrolled, 397 students completed and returned the questionnaire for a response rate of 72 percent. Participation was voluntary; students who did not wish to participate in the study were offered an alternative exercise that they could do at that time. Only three students refused to participate. Fifty-five percent of the sample was female and class standing was as follows: Freshman 35.3 percent; sophomores 32.8 percent, juniors 18.6 percent, seniors 11.8 percent, and others 0.6 percent. A comparison with official university figures suggests that the sampling frame overrepresented freshman and sophomores. At the time of the survey, the campus population was 53% female and 47% male. At the time 29.4% were freshman, 27.8% were sophomores, 22.3% juniors, 19.1% seniors and the rest were classified as other.

Measurement

Respondents were queried about their responses to three social settings involving some aspect of drinking activity: being sober and offering to drive the car of someone who has been drinking, asking someone who has been drinking and is loud and obnoxious to be quiet, and requesting that no alcohol be served at a graduation party. Questions also varied the actors involved in each situation: An acquaintance and a close same-sex friend. Precise implementations within the context of TPB and the Spiral of Silence are detailed below.

Attitude toward behavior/own opinion. Attitudes toward three relevant communication behaviors directed at three different kinds of actors were assessed by having respondents use 9-point scales to rate three adjective pairs consisting of the descriptors bad-good, foolish-wise, and rewarding-punishing (reversed). Six additive scales for each actor-situation combination were created. The question wording is as follows: "For me, asking [*a close friend of the same sex, an* *acquaintance of mine that I don't know well*] to let me drive when he or she has been drinking is [*adjective pairs*]." "For me, asking [*actor*] to be quiet when he or she is being loud and obnoxious because he or she has been drinking is [*adjective pairs*]." "For me, expressing my opinion to [*actor*] that a party doesn't need alcohol to be fun when he or she and I are planning a graduation party for someone and he or she says we should serve alcohol about party and I don't want to is [*adjective pairs*]." Standardized alphas are as follows: Discuss with acquaintance about driving, *alpha*=.76; discuss with acquaintance about loudness, *alpha*=.78; discuss with acquaintance about party, *alpha*=.81; discuss with friend about driving, *alpha*=.73; discuss with friend about loudness, *alpha*=.76; discuss with friend about party, *alpha*=.85. These scales fulfilled a "dual" role as a measures of "own opinion" within the Spiral of Silence framework and "attitude toward the behavior" within the TPB approach when using observed variables in the subsequent analysis.

Perception of majority opinion/normative beliefs. The same measurement scheme was used to have respondents estimate the attitudes of the majority of other students concerning the appropriateness of employing each communication strategy. Wording template: "For most students, expressing my opinion to [*actor*] that [*situation*] is [*adjective pairs*]." The scales serve a dual role of representing normative belief (TPB) and perceived majority opinion (SOS). Standardized alphas: Discuss with acquaintance about driving, *alpha*=.78; discuss with acquaintance about loudness, *alpha*=.80; discuss with acquaintance about party, *alpha*=.84; discuss with friend about driving, *alpha*=.77; discuss with friend about loudness, *alpha*=.78; discuss with friend about party, *alpha*=.86.

Subjective norms. *Normative beliefs* about drinking were measured by asking respondents to indicate the extent to which they believed others (acquaintance, close friend, serious dating partner) would want them to voice their opinion in each of three situations, with responses ranging from 1 (*should speak up*) to 9 (*should not speak up*). Scales were reverse coded in subsequent analysis. Typical question wording: "When I'm riding with someone who has been drinking and I am sober and want to ask him or her to let me drive [actor] thinks that I should/should not speak up."

Motivation to comply was measured by asking respondents to rate their general willingness to conform to others' expectations on a scale ranging from 1 (*same as*) to 9 (*opposite of*) and worded as follows: "In general, I very much want to do same as/opposite of [actor] would like me to do." Following scaling procedures recommended by Ajzen (1991, p. 195), both normative belief and motivation to comply measures first were reverse coded. The normative belief scales also were recoded to form a bipolar scale (-4 to + 4 range), reflecting the idea that a larger value indicates a positive normative expectation. The normative belief and motivation to comply scales were then multiplied to form a measure of *subjective norm*.

Perceived behavioral control. A global measure of *self-efficacy* was used to assess perceived behavioral control. Self-efficacy was appraised by asking respondents to use nine-point scales varying from 1 (*not very confident*) to 9 (*very confident*) when rating their ability to deal with the three social settings outlined above. Sample wording: "If you were in a situation where [actor] had been drinking and you were sober, how confident are you in your ability to ask him or her to let you drive?"

Response Efficacy. The key belief of response efficacy was gauged by asking respondents, using 9-point scales ranging from 1 (*not very effective*) to 9 (*very effective*), to rate the effectiveness of each communication strategy employed. Typical wording: "Do you believe asking someone who has been drinking to let you drive is an effective way to prevent a drunk from driving?"

Behavioral Intention. Respondent intentions to engage in the three communication behaviors were measured by asking respondents to rate their likelihood of performing each action, ranging from 1 (*likely*) to 9 (*unlikely*). The scale values were reversed in subsequent analysis. Questions were worded as follows:

> I would definitely ask [actor] to let me drive the next time I am out with him or her and he or she has been drinking and I am sober.
>
> I will definitely ask [actor] to be quiet the next time I am out with him or her and he or she has been drinking and is loud and obnoxious.
>
> I will definitely express my opinion that a party doesn't need alcohol to be fun the next time I am in a situation in which [actor] and I are planning a graduation party for someone and he or she says we should serve alcohol and I disagree.

Control variables. Several variables considered relevant to drinking and drinking-related communication served as statistical controls. These include: respondent gender (female coded high), whether the respondent had been arrested for a drinking-related activity, and present level of drinking behavior, as indexed a) by the number of times the respondent drank in the past two weeks, and b) the number of drinks consumed on the days the respondent did drink.

Results

Before addressing our research hypotheses, an examination of student drinking activities provides instructive context. Seven percent of students reported being involved in a drinking-related arrest and some 25 percent were of legal drinking age. Yet, 80 percent of the respondents reported drinking alcohol within the past two weeks (number of occasions, *M*=3.26, *Sd*=3.03), with 20 percent reporting drinking on five or more occasions. In addition, 46 percent of students reported having 5 or more drinks--the standard definition of binge drinking--as their average rate of consumption on occasions when they do drink (average number of drinks, *M*=4.74, *Sd*=2.35), with 21 percent reporting their normal consumption at eight or more drinks. And consistent with previous studies, students on average were more likely to overestimate the rate of consumption (i.e., average number of drinks per occasion) of their peers (*M*=7.03, *Sd*=2.73).

We expected that attitude toward communication behaviors, perceived behavioral control (self-efficacy), response efficacy , subjective norms and beliefs concerning majority opinion would be positively associated with behavioral intention to communicate.

[Table 1 about here]

An initial test of our first five hypotheses was conducted using Pearson correlations among observed variables (Table 1). All correlations were significant, suggesting consistent support for each hypothesis. However, a more nuanced view of the data emerges when using structural equation modeling (SEM). A SEM approach permits a more stringent evaluation of the hypotheses through the application of multiple controls, explicit modeling of measurement error, and simultaneous assessment of the relative importance of the predictor variables of interest. The structural model tested, a combination of single indicator and multiple indicator variables, is represented in Figure 2. Exogenous variables include a single indicator representing

[Figure 2 about here]

gender and the latent construct of prior drinking behavior, which was measured by three variables: prior arrest for drinking, number of times drinking in the past two weeks and the usual number of drinks consumed when drinking. Endogenous variables include: Subjective norm for acquaintance, friend and date, self-efficacy, response efficacy, and behavioral intention. Latent constructs (indicated by circles in the diagram) include attitude toward the behavior and estimated majority attitude, measured by three indicators described above in the methods section.

Six models reflecting the different dependent variables were run using LISREL 7.51 (Joreskog, Sorbom, Du Toit, & Du Toit, 2001). A covariance matrix was analyzed to obtain maximum likelihood parameter estimates. Modification indices for all six models, suggested that error terms between adjective pairs foolish-wise and rewarding-punishing (reversed) for own attitude and majority attitude should be allowed to correlate. This produced an improvement in model fit, but in no instance did such a modification of the measurement model affect the substantive conclusions. In our view, a set response across the reverse coded (rewarding-punishing) adjective scale is the most likely explanation.

[Table 2 about here]

Table 2 displays the direct and indirect effects of the control variables and direct effects of the endogenous variables on behavioral intention. The fit statistics for all of the models meet or exceed an NFI of .95 or greater and RMSEA of less than .06 as cutoff points, suggesting an adequate fit to the data (Hu and Bentler, 1999). Several other features found in the table are worth noting. First, the variance accounted for (R^2) when predicting behavioral intention ranges from a low of 39 to a high of 68 percent. Second, although no effects for gender were found, prior drinking behavior demonstrates significant and negative direct and indirect effects on intention to give one's opinion about requesting quiet, voicing a preference for a non-alcoholic party, and to a lessor extent, offering to drive a car. This result is perhaps not that surprising; as drinking activity increases, respondents appear to be less likely to hold and assert views that would tend to undercut their customary drinking activities.

Hypothesis Tests

When examining the role of endogenous variables, one finds support for the first four hypotheses varied somewhat depending upon the specific predictor under scrutiny.

Hypothesis 1. The relationship between attitude toward each communication behavior (own opinion) and behavioral intention was positive across five of six situations, the exception being offering to drive an acquaintance's car.

Hypothesis 2. The same general robust positive pattern of significant coefficients was found for self-efficacy, a component of perceived behavioral control, across all six models.

Hypothesis 3. Subjective norms demonstrated a robust pattern of expected positive coefficients across the six models, although in three instances there appears to be a "carry over" effect; subjective norms for a dating companion were significant for offering to drive a friend who had been drinking (*beta*=.19, p<.05) and discuss with a friend the prospect of hosting a non-alcoholic party (*beta*=.13, p<.05), and subjective norm for a date was significantly associated (*beta*=.10, p<.05) with offering to drive an acquaintance's car.

Hypothesis 4. Response efficacy--the belief that voicing one's opinion is an effective strategy-- was a significant predictor of speaking out across all six instances of discussions with acquaintances and friends.

Hypothesis 5. The analysis also allowed us to address the question of whether perceptions of majority opinion (estimates of the majority's attitude) had any influence on behavioral intentions to communicate one's views controlling for the effects of peer influences as reflected in the measures of subjective norms. The data indicate that perception of majority attitudes was positively associated with offering to drive a car when an acquaintance (*beta*=.15, *p*<.05) and a friend (*beta*=.11, p<.05) has been drinking. Thus, when multiple controls are applied, H5 received positive support in two of six instances.

Hypothesis 6. The data also permit an examination of one other aspect of opinion expression taking the Spiral of Silence framework as a starting point. As mentioned above, TPB views behavioral intention (in this case expressing an opinion) as a function of subjective norms, perceived behavioral control, and attitude toward the behavior. Somewhat in contrast, Noelle-Neumann sees differential rates of opinion expression as stemming from an alignment of one's own opinion and perception of majority opinion, in which case opinion expression is enhanced. A discrepancy between own and perceived majority opinion is expected to attenuate opinion expression as the self-perception of others gap widens. This proposition was tested with observed variables using hierarchical regression. Control and all TPB/SOS variables were entered into the analysis as main effects prior to the inclusion of an own attitude-by-estimated majority attitude interaction term (Aiken & West, 1991). No significant interaction terms were found (data not shown) and thus we conclude that H6 received no support.

To summarize, own attitude (H1), self-efficacy (H2), peer influence (H3) and response efficacy (H4) emerged as consistent predictors of opinion expression. Evidence for the role of majority opinion (normative belief) was more limited (H5) and appears to be confined to discussions about driving an acquaintance and friend's car. No evidence was found that own and majority opinions interacted (H6) when predicting opinion expression about drinking-related activities.

Discussion

The purpose of this study was to examine the dual roles of peer and social influence on drinking-related communication behaviors utilizing concepts derived from Theory of Planned Behavior and the Spiral of Silence. Overall, the results suggest that perceptions of peer opinion and prevailing social norms do have an impact on discourse surrounding drinking activities. The findings confirm propositions about peer influence derived from TPB, whereas more limited support was found for propositions about the sway of social norms derived from the Spiral of Silence.

Based on these findings one might be tempted to conclude that peer influence is more important or somehow "overrides" social influence in most instances. Indeed, this may be the case, but we would argue that such a conclusion would be premature, based on the argument that our measurement of perception of majority attitude/opinion (a normative belief) did not include any assessment of a person's motivation to comply, whereas measures of peer influence did factor in this motive. In some sense, then, the measure of perception of majority opinion was at a relative disadvantage *vis a vis* measures of peer influence reflected in subjective norms of friends and dating partners. Moreover, the three issues explored in the context of a campus community are those not usually studied or even as seen as necessarily appropriate by SOS researchers. Thus one could argue that finding any results at all in such "difficult" circumstances is all the more uncommon.

However, even in the absence of accepting these arguments, the findings at the very least suggest that social influence may at times impinge upon discussions held with friends and acquaintances. In particular, the finding of a positive relationship between estimated majority opinion and opinion expression is consistent with the well-known campaign theme of "Friends don't let friends drive drunk," which apparently extends to people who are not as well known to the respondent. Contrasted with the pattern of null findings for requesting quiet and discussing a non-alcoholic party, this general pattern of results suggests that the sparser showing for majority opinion may stem, at least in part, from the possibility that drinking and ancillary activities may not have been viewed as "morally loaded" by many students. Assessing the extent to which each situation was "value laden" certainly recommends itself in future research.

The failure of H6, which predicted that own and majority opinion would interact, merits comment as well. The best explanation for these null findings, in our view, turns on the relatively high level that both own attitude and majority attitude exhibited in the data. Although own attitude had higher mean values than majority opinion in all six situations, the overall levels were above the scale midpoint. This suggests that, even when there were discrepancies between own and majority opinion, the overall thrust was in a positive direction. This further implies that respondents may not have believed that their own opinion was all that far "out of line" with majority sentiment and thus felt no large constraint about voicing their views.

In contrasting the two theoretical approaches, there are several areas that have the potential for exploration in future studies. In the case of Theory of Planned Behavior, the findings suggest that researchers may wish to incorporate the element of social influence, as indexed by perceptions of majority opinion when assessing subjective norms. As alluded to above, researchers using TPB typically view subjective norms as applying to a person's interpersonal contacts. However, this appears to stem more from "customary practice" rather than any inherent theoretical restriction; nothing in the theory precludes exploring the potential influence of estimated majority opinion, and one could well imagine incorporating normative beliefs about majority opinion and motivation to comply with majority opinion in the study of public opinion dynamics or more "private" communication activity as a matter of course. In addition, one may reasonably argue that TPB focuses more on individual factors impinging upon behavioral enactments at the expense of providing a more complete account of wider social influence. However, the Spiral of Silence, with its emphasis on the mass media influencing the perceptions of norms, holds out the promise of informing TPB research by allowing researchers to more readily incorporate consideration of these broader social processes when conducting studies.

Several suggestions can be proffered in the case of the Spiral of Silence as well. First, given that willingness to express an opinion is a central SOS variable, researchers would do well to consider incorporating elements from TPB in future studies. This is particularly true when considering aspects of perceived behavioral control such as self-efficacy and a key belief such as response efficacy, if for no other reason than to strengthen their own findings by eliminating the possibility of excluding from analysis key variables (i.e., specification error) now known to potentially influence opinion expression. Second, explicitly considering key beliefs such as response efficacy may allow the appraisal of alternative mechanisms leading to silence or speaking out, and in addition, may lead researchers to consider the possibility that respondents may have different goals when confronted with the opportunity to voice an opinion. Third, in a related vein, TPB's emphasis on discovering key beliefs and peoples' evaluation of these beliefs has the potential to broaden the range factors that SOS researchers consider when attempting to explain both speaking out and falling silent. In addition, these results suggest that researchers working within the SOS framework can readily incorporate the notion of subjective norms as applied to primary and reference groups as well as majority opinion. And last, the relationship of motivation to comply to fear of isolation suggests itself as a area of fruitful inquiry. It seems apparent that as fear of isolation increases, motivation to comply with majority opinion should increase, too.

The findings suggest new avenues for designing message strategies for campaigns. While it would still be valuable for campaigners to craft messages that present consumption norms, messages could also be developed that would present students describing how binge drinking behaviors on campus have affected their lives. The goal of those messages would be to change students' misperceptions of the norms, and also could provide a context conducive to greater conformity to more widely-held social norms found in the larger society.

If correcting students' perceptions of other students' attitudes about some of the broader components of social drinking situations can encourage students to be more willing to express their opinions, campaign managers using the Social Marketing approach may have an entirely new avenue to pursue. The results suggest that it may be possible to correct misperceptions about the negative secondary effects of binge drinking on campus thereby leading to greater willingness of students who have been victims of such problems to express their dissatisfaction with the behavior of their binge drinking peers (e.g., Presley, Meilman & Lyerla, 1993). It is possible that campaigners could use students' speaking out against the negative effects of binge drinking on campus to affect a change in campus culture that would ultimately create and environment that would discourage excessive drinking.

There are several limitations inherent to the present study that cause us to issue cautionary notes. First, although the findings concerning overestimation of drinking levels found in this study replicated the work of other researchers, the nature of the sample places limitations on this study's potential generalizability to non-college populations. However, given the study's focus on examining important theoretical relationships among psychological variables rather than on estimating population parameters, we believe that the study does contribute to our theoretical and practical understanding of underlying processes involved in opinion expression about a significant social problem. Second, it's important to note that this study examined self-reports of behavioral intentions in response to hypothetical situations put to survey respondents. Future studies should include measuring actual behaviors. Third, although we asked respondents about the likelihood of voicing their opinion, there is the possibility that respondents may employ other articulation strategies when speaking out. At a minimum, this could include refusing to speak out, providing neutral comments, and even lying; these questions should be posed in future studies. In addition, it would be useful to learn in greater detail the extent to which estimates of majority opinion have their origins in interpersonal and mediated communication.

Finally, the cross-sectional nature of this study hampers an examination of the dynamics that theoretical approaches such as social marketing and the Spiral of Silence would appear to imply. There is a clear need for panel designs that will let researchers examine how shifts in beliefs about majority opinion produce changes in open discussion, both in the public and private spheres, about drinking and responses to drinking, or for that matter, any topic and any communication behavior

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Table 1. Correlations with likelihood of voicing drinking-related opinion

TPB/SOS Variables	Discussion with friend			Discussion with acquaintance		
	Offer to drive car	Request they be quiet	Assert preference for non-alcoholic party	Offer to drive car	Request they be quiet	Assert preference for non-alcoholic party
Subjective norm: Friend	.38***	.50***	.63***	.22***	.45***	.51***
Subjective norm: Acquaintance	.15**	.37***	.48***	.31***	.50***	.55***
Subjective norm: Date	.40***	.45***	.60***	.21***	.38***	.46***
Self-Efficacy	.45***	.50***	.64***	.60***	.54***	.67***
Response Efficacy	.21***	.33***	.49***	.26***	.33***	.43***
Attitude toward behavior	.38***	.56***	.62***	.43***	.42***	.53***
Perceived attitude of majority	.34***	.36***	.40***	.33***	.27***	.33***

n=397. ***p<.001. **p<.01. Note: Table entries are Pearson correlation coefficients.

Table 2. Predictors of likelihood of voicing drinking-related opinion

	Discussion with Acquaintance		
Predictors	Offer to drive car	Request they be quiet	Assert preference for non-alcoholic party
Controls: Direct Effects			
Gender[a]	-.03	-.07	-.04
Drinking Behaviors	-.14*	-.15*	-.19*
Controls: Indirect Effects			
Gender[a]	-.02	-.06	-.02
Drinking Behavior	.00	-.05	-.19*
TPB/SOS: Direct Effects			
Subjective norm: Friend	-.07	.10	.05
Subjective norm: Date	.10*	-.03	-.09
Subjective norm: Acquaintance	.12*	.24*	.14*
Perceived attitude of majority	.15*	.02	.08
Attitude toward behavior	.11	.20*	.17*
PBC: Self-Efficacy	.45**	.34*	.45*
Response Efficacy	.15*	.09*	.12*
R^2 for Behavioral Intention	.48	.50	.59
Chi-Square for model (d.f.= 64)	94.08	110.22	105.40
Chi-Square/d.f.	1.47	1.72	1.66
p	.001	<.001	<.001
RMSEA	.033	.042	.039
NFI	.95	.95	.96

Table 2. Predictors of likelihood of voicing drinking-related opinion (continued)

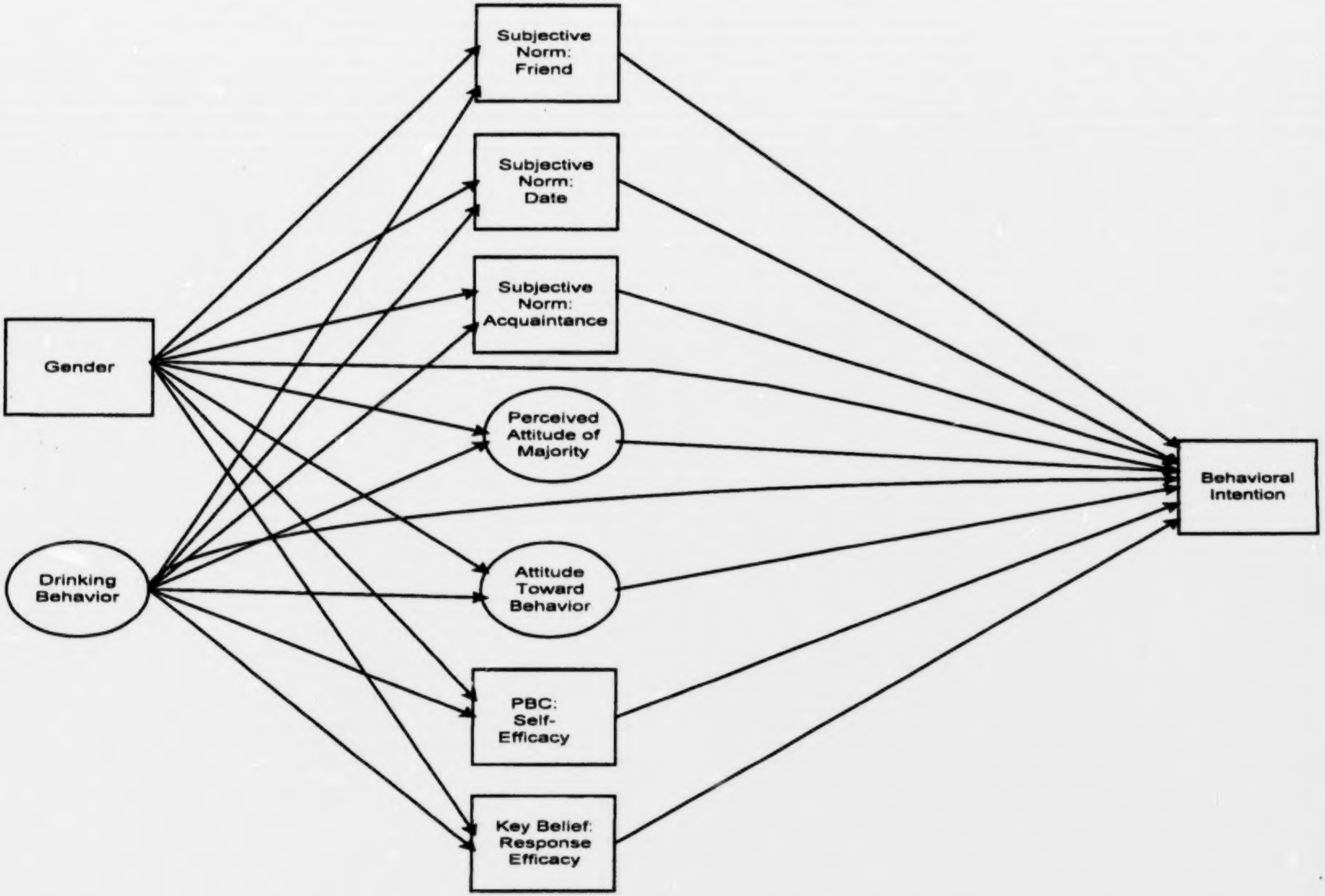
	Discussion with Friend		
Predictors	Offer to drive car	Request they be quiet	Assert preference for non-alcoholic party
Controls: Direct Effects			
Gender[a]	.07	.07	-.02
Drinking Behaviors	-.06	-.09*	-.16*
Controls: Indirect Effects			
Gender[a]	.04	.01	.04
Drinking Behavior	.01	-.17*	-.31*
TPB/SOS: Direct Effects			
Subjective norm: Friend	.11*	.14*	.17*
Subjective norm: Date	.19*	.05	.13*
Subjective norm: Acquaintance	-.04	.03	.02
Perceived attitude of majority	.11*	-.03	.02
Attitude toward behavior	.20*	.40*	.28*
PBC: Self-Efficacy	.25*	.26*	.26*
Response Efficacy	.09*	.10*	.09*
R^2 for Behavioral Intention	.39	.55	.68
Chi-Square for model (d.f.= 64)	91.13	79.92	95.08
Chi-Square/d.f.	1.42	1.25	1.49
p	.02	.09	<.01
RMSEA	.032	.023	.035
NFI	.95	.97	.97

n=397. **p*<.05. Note: Table entries standardized maximum likelihood coefficients. [a]Coding: Male=1, Female=2. RMSEA=Root Mean Square Error of Approximation. NFI=Normed Fit Index.

Figure 1. Comparison of theory of reasoned action and spiral of silence

Variables	Theory of Planned Behavior	Spiral of Silence
Beliefs	6-8 key beliefs about behavior	Key belief about threat of isolation
Evaluation	Evaluations of each belief	None
Attitude	Overall attitude toward behavior	Own Opinion/attitude toward issue
Control Beliefs	Self-efficacy Controllability	None
Beliefs about Peers/Society	Peers: Normative beliefs, typically about peers and important others	Societal: Estimated majority opinion
Motive	Motivation to comply	Fear of isolation
Peer/Social Influence	Subjective Norm as product of belief and motive	None. Default: Estimated majority opinion
Behavioral Intention	Intention to perform behavior	Willingness to express opinion
Behavior	Behavioral enactment	Actual opinion expression

Figure 2. Structural Model of Variables in Analysis.


Subjective Norm: Friend
Subjective Norm: Date
Subjective Norm: Acquaintance
Gender
Perceived Attitude of Majority
Behavioral Intention
Drinking Behavior
Attitude Toward Behavior
PBC: Self-Efficacy
Key Belief: Response Efficacy

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